AMERICAN VETERINARY REVIEW.

OCTOBER, 1902.

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EDITORIAL.

EUROPEAN CHRONICLES.

INTRAVENOUS INJECTIONS OF ANTI-RABIC VIRUS.—Almost ever since the discovery and the application of the treatment of Pasteur against hydrophobia, researches have been made to shorten the length of the treatment and to find a method more intense, so as to avoid the rare failures which occur now and then, failures which, leaving aside the cases where the immunity fails to appear on account of individual peculiarities, are explained by the slowness with which a refractory condition develops in the organism; twenty days of treatment are required for immunity to appear and more than fifteen are necessary for the effects of the successive inoculations to be produced. If before that time the rabid virus reaches the central nervous system, the treatment fails.

To accelerate the process of immunization is then of the utmost importance.

Among the attempts which were made to realize this object, intravascular injections have been tried.

Is the introduction of virus into the blood harmless? Pasteur, at first, observed that injection in the blood gave rabies just as well as intracranial inoculation. But later he found that if introduced in very small quantity the virus produced no disease, but failed also in granting any immunizing power.

Galtier has also shown that the inoculation of saliva from rabid animals into the veins of the sheep and horse does not develop rabies, but that it neither seems to confer immunity.

Roux and Nocard by numerous experiments have confirmed the observations of their predecessors, and yet, they have demonstrated that the intravenous injection of pure rabid virus, made in horses, cattle or sheep, twenty-four hours after the intra-ocular inoculation of a virulent cord, is sufficient to prevent the development of rabies.

Many have been the researches which have been made, and in the *Annales de l'Institut Pasteur* I find a report of a long series of experiments made in that direction by Dr. V. Krasmitski, of the Bacteriological Institute of Kiew, which seems to have allowed the question to go a few steps forward, and which after all may bring on the practical result so desired.

From the experiments of the Professor it is proved (1) that "intravenous injections of rabid virus are not dangerous under the conditions that the virus be in a filtrated and diluted emulsion, heated at 37° and introduced very slowly. If these conditions are carried out, possibility of embolies are avoided, and no harm will follow the injections; (2) by intravenous injections animals are *made* refractory to rabies more rapidly, and a more solid immunity is obtained than by the other modes of vaccination—in the rabbit, even after intracranial inoculation, it has protected him and prevented the development of the disease; (3) rabid nervous substance, made not virulent by any attenuating agent, has no immunizing action; scarcely may it exercise a vaccinating power in rendering the organism less sensible to the following introduction of a reënforced virus."

As an evidence of at least the harmless effects of intravenous injections, Dr. Krasmitski relates the fact that during last year in 70 cases of persons bitten by rabid dogs and of excessive severity, this treatment was tried at the Institute of Kief, that they have been followed by no complications, and that the results were very encouraging.

It must not be supposed, however, that only bacteriologists can solve the question. It is certain that much can be suggested by such experiments as the above, but the practical veterinarian is on his side also searching.

The first practical application was that which has been made and recorded by a veterinarian, Mr. Moncet, who reported in the *Revue Vétérinaire* the history of three cows which had been bitten by a mad dog. Two of the cows received in the veins, ninety-four and seventy-nine hours after being bitten, five cubic centimeters of an emulsion made with the bulb of the dog that had bitten them; the third cow, which was only suspected, received the treatment only one hundred and eighteen hours after receiving the bites. The three animals remained healthy and did not contract the disease.

Successful in these three animals, this treatment failed with Mr. Rabieaux, who resorted to it in a donkey.

Since, new attempts have been made by another veterinarian, Mr. Conte. With him, however, the results are different. A horse treated five days after injury lived for six months, when he was said to have died with paraplegic symptoms. Another manifested rabies only seventy-seven days after treatment. Another, in which the treatment was applied only one hundred and thirty-two hours after the bite, lived two hundred days after the first vaccination. With a fourth the horse lived seventy-one days after the injury, and in a fifth no symptoms were manifested until one hundred and forty-five days after being bitten.

Although the treatment seems to have failed in all these cases, there is a very important point to notice, viz., that for three of them the time required for the appearance of the disease has been unusually long—there has been a continuation of apparent health far superior to the period of incubation of rabies in solipeds, which varies between fifteen and sixty days. Powerless to prevent the infection, has the treatment arrested its apparition, or increased the resistance of the animal? Is a gradual increase of the quantity of virus to inject necessary? These are questions which remain to be solved.

In his experiments the technic followed by Mr. Conte was as follows: The skin of the jugular was soaped, shaved, disinfected with solution of sublimate ($\frac{1}{1000}$), the inoculation was made with a syringe of double canula, and five cubic centimeters of virulent emulsion was used. This was made with pieces of bulb crushed, filtrated through very thin cloth. A second injection was made 24 hours after in the other jugular. The animals were kept at perfect rest for a month after.

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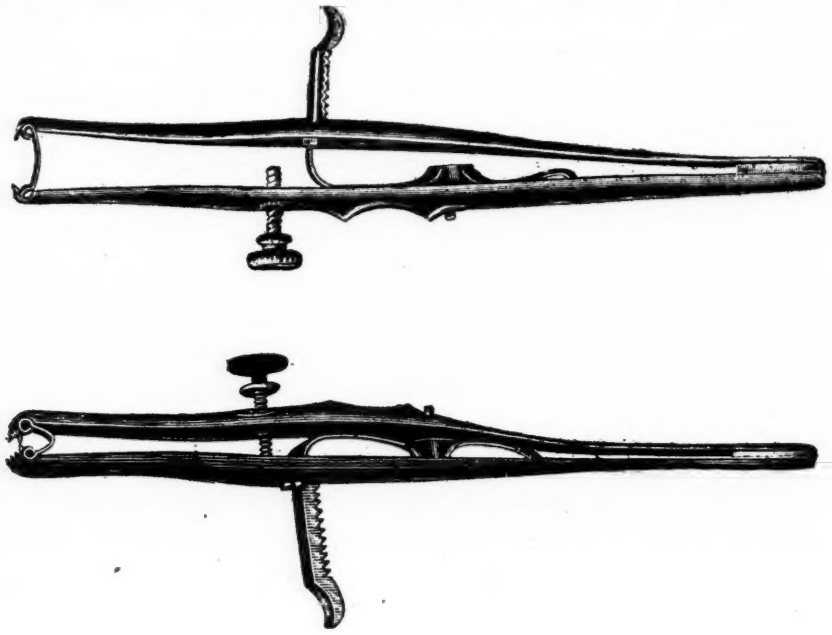
A NEW SUTURE.—Many are the objections made against sutures—their possibility of cutting, their getting loose, their irritating effects, etc., etc.—and to overcome them many modifications have been resorted to. The thread, the silk, the hairs, the catgut, the metallic sutures, etc., have been tried and have found their proper and individual application,—and yet it does not seem that perfection has been reached. Of course, surgeons are searching and experimenting.

At the International Congress of Chirurgie, held in Paris, a new system of suture was presented to secure the union of



cutaneous wounds, which deserves attention. Dr. Michel, who presented it, has obtained with it excellent results. It consists in the application of a number of metallic agrafes (hooks) similar to those that we veterinarians have been using for years in the treatment of toe-and quarter-cracks,—the Vachette clasp, somewhat modified. These agrafes are made of small metallic bands one centimeter long and ¼ of a centimeter wide, with sharp extremities, which are applied and closed tight with special forceps, which have already received many modifications. The little drawing shows the forceps of Bayer with the agrafe as it is to be applied and when in place.

Prof. Bayer has already recorded cases of the use he has made of those sutures in the treatment of two abscesses of the mastoido-humeralis and where he obtained very good results.

In the *Clinica Veterinaria*, I have followed the records of numerous experiments made at the clinics of the Royal Veterinary School of Milan, which are reported by Dr. Domenico Bernardini, and the results are so satisfactory that there can be no doubt of this mode of sutures taking the place of many, if not all, of those now in use. Indeed, sixteen cases are recorded of cutaneous sutures made for various solutions of continuity and in all the agrafes have given complete satisfaction, in holding the parts well secured, in not interfering with cicatrization, etc. The cases are: sutures of the skin for wound after the extirpation of a large splint; for a large lacerated wound of the back of a hind leg, over the tendon; to hold the incision made to reduce an inguinal herina in a pig and in a dog; to close an abscess of the anterior border of the neck; to suture wound of plantar neurotomy; in a case of amputation of the penis to secure the skin to the urethra; after mastoido-humeralis abscess; in two cases of entropion in dogs; in one of enormous growth of the axilla; after amputation of the ear in dog to hold the cutaneous edges well in contact; in a case of fistulæ of the supra-orbital region of a horse; after umbilical hernia in two dogs; after median neurotomy; after extraction of the mammæ in the slut.

It is claimed that the agrafes can be sterilized as well as any other suture, that they can be used several times if properly removed after their work is done, and that their cost is so small that even in that point, there is advantage to use them in veterinary practice instead of others.

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THE "EMERGENCY REPORT ON SURRA."—I cannot close this chronicle, but must postpone to my next other subjects of interest to keep a little room for a few words on an American publication which I have just been enjoying. What business have I, in a European chronicle, to consider American subjects? Of the right that a chronicler has to take his material wherever he finds it. Anyhow, for once, my chronicle will be international instead of strictly European.

Have any of our friends read the late issue from the Bureau of Animal Industry, "Emergency Report on Surra?" Good for those who have had the opportunity and have been wise enough not to let it go by. But let every one of those who have not yet seen it, get it and read it carefully. Dr. Salmon and Dr. Stiles deserve well of the profession for their new issue, for in it the veterinarian will find a gathering of all that has been published of the disease "surra," and will gain an excellent knowledge of its pathology. They deserve well from the sanitary veterinarians, and also from army officers, who can now become familiar with a disease which would possibly enter the United States if the ever vigilant and constant watchful Chief Salmon was not there to stop it.

It is not here my plan to review "Emergency." I might say that in it surra is treated in the most thorough manner, etiology, symptoms, pathology, complications, prevention, etc., etc. I might add that in that pamphlet, nagana, or tsetse-fly disease, Mal de Caderas and tripanosomiosis of rats and bandicoots are also presented to the reader. But I think the best I can say is—write to our colleague at Washington. I am sure that, with his usual amiability, he will send it to the applicant, who, without doubt, will enjoy the treat. Try it! A. L.

THE SEPTEMBER VETERINARY CONVENTIONS.

Veterinarians have resumed their accustomed labors, after a splendid season of profitable relaxation from the treadmill of routine practice, refreshed in mind and body, stronger in their capacity to serve the cause which demands their greatest efforts, their brightest thoughts, their keenest reasoning, and their best physical state. And what a record they have left for the archives of our associational life. The convention halls were filled as never before, and by men who were there for what they could learn and contribute to the science of veterinary and comparative medicine. That was their serious work, and that this work could occur amidst pleasant surroundings, that social pleasures and innocent amusements could be charmingly intermingled with their scientific labors, but add to the quality of the latter. So it proved with the conventions just passed. Those who contributed the strongest to the programmes entered into the diversions with the heartiest zest, for it is a truism that the hardier the tree the better its fruit.

The REVIEW promised its readers in September that it would present in its October number as full accounts of these great gatherings as its pages would hold, and we believe that a perusal of this issue will show that it has more than kept faith with them, for it has added many pages to its regular quota in its efforts to tell the stories of the National and State gatherings in different parts of the country. But even with the great amount of space thus afforded, they must remain half-told tales. It will require several issues to place before our readers all the precious material which we have secured, for it appeared that all were anxious that their contributions should appear within the REVIEW'S cover. More evidence was exhibited to us of the influence which this journal is exerting on the profession of this country to-day than had impressed itself before. Veterinarians from all quarters of the country, and representing every phase of professional life, spoke of it in the most affectionate terms and with every evidence of their esteem for its efforts in behalf of their profession. We assure all that their

kind words and loyal support is deeply appreciated, and will have the effect of stimulating us to stronger endeavors to merit their confidence.

The American Veterinary Medical Association, which met in Minneapolis, Sept. 2 to 5, was the largest in point of attendance and in character of deliberations of any that have preceded it in the thirty-nine years of its existence. A large number of pages are given elsewhere to detailing its deliberations, and as many of the documents presented as can be crowded into this number, while others will follow as rapidly as possible.

The revival of interest in association work in New York State which started in at Ithaca in 1900, and increased in 1901, was more than sustained at the State Society meeting at Brooklyn, on the 9th and 10th. Not all of the papers announced, the authors of which were on hand, could be presented, the time of the session having been consumed in the discussion of those that were read, so intense was the interest of the members in the subjects treated of. But the REVIEW will supply as much of this deficiency as possible by publishing those that were omitted. The members again emphasized their conviction as to the educational value of clinics as a help to them, for they were present in even greater numbers at this section of the programme. Nor is it necessary that the clinic shall be surgical, for when subjects of doubtful diagnosis—whether it be constitutional disease, obscure lameness, or rare conditions—their interest was just as manifest. The story of this great meeting will be found elsewhere.

Missouri held her State convention a little earlier than September, but it belongs to the autumnal State gatherings, and Secretary Kaupp gives veterinary readers a good idea of all that was done at the meeting on the 18th and 19th of August in this number.

We regret that we have not in hand the record of the Pennsylvania State meeting, but we understand that it was entirely successful, and hope to be able to print an account of the proceedings in the next issue.

Altogether, the profession of the country is to be congratulated on the extent and character of association work for 1902, and the REVIEW desires to tender its sincere felicitations.

APPRECIATED RECOGNITION.

In the "News and Items" department of the September REVIEW there was reproduced an editorial from the New York *Medical Journal*, of August 9, entitled, "The Penalty of Neglecting Veterinary Medicine," which was based upon a paper presented by Dr. W. H. Dalrymple at the annual meeting of the Louisiana State Medical Society in June last. The paper in question was on the value of coöperation in the sanitary control of the periodic epizoötics of anthrax which occur in Louisiana, and its main object was to draw the attention of members of the medical profession in that State, more particularly those practicing in districts in which the disease most frequently occurred, to the importance of coöperative action in a work that not only affected the pockets of the owners of live stock, but was in the interest of the public health as well, especially where members of the veterinary profession were not in sufficient numbers to successfully cope with the situation. The appeal for coöperation which Dr. Dalrymple made, was not, however, in favor of the medical man usurping the position of the veterinarian in work which properly belongs to the latter, but for his assistance and influence in the endeavor to impress upon clients the absolute necessity for the adoption of strict sanitary measures.

Incidentally, Dr. Dalrymple drew attention to the fact, that the study of pathology was not confined to disease in the human family only, but that it was similar, whether occurring in man, the lower animals, or even plants; and he stated that the rapid strides medical science had made, and the exalted pinnacle to which it had attained in recent years, had been made possible largely through the efforts of workers in the field of comparative medicine. This the New York *Medical Journal* heartily indorsed, and made the point that it would enhance the value of the work of the medical profession if its members were more

familiar with veterinary medicine; or, in other words, knew more about the diseases of the lower animals that are communicable to the human subject.

We appreciate the editorial comment by the New York *Medical Journal* as a compliment to the veterinary profession, and a recognition by such an eminent authority of the importance of the position we hold in the great field of medical science.

PEMPHIGUS FOLIACEUS.—Dr. F. W. Culver, of Longmont, Col., writes under date of Aug. 24: "I read with great interest the article in the July REVIEW by Dr. F. E. Anderson on 'pemphigus foliaceus.' I enclose a clipping taken from the Denver *Republican* of Aug. 24." The "clipping" referred to is as follows: "*New York, Aug. 23.*—Rudolph Fliender of New Brunswick, N. J., is dead, after a lingering illness, from a rare disease of the skin known to scientists as pemphagus vulgarus. No other case of the disease has ever been known in the United States it is asserted. Fliender's skin became as if scalded and his nurses had to swathe his entire body in cotton. Specialists who studied the case with great interest could do nothing to relieve him and he died from exhaustion."

A FAMILY OF RUMINANTS.—Dr. L. R. Müller (*Münchener medicinische Wochenschrift*, August 5th) reports the cases of a father and two sons who were ruminants. In from fifteen to thirty minutes after a meal, the ingested food reappeared, in equally large portions, in the mouth. This was rechewed and reswallowed, and in from three to four minutes another portion came back into the mouth to go through a similar process. This continued anywhere from one-half an hour to an hour after a meal, and was accompanied by a renewal of pleasant taste and by a certain desire to continue chewing the regurgitated food. If the rumination was interrupted, an uncomfortable feeling in the stomach developed. The three men were in perfect health, had no complaints of any kind, and there was abundant evidence that the intestinal digestion was perfect. The father died of carcinoma of the stomach. The autopsy disclosed an hour glass contraction, the cardia and the œsophagus were so dilated that they admitted three fingers easily. Müller describes as the possible causes of this anomaly digestive peculiarities and atavism. The act, however, was in all three patients an involuntary, automatic one.

ORIGINAL ARTICLES.

CONTRIBUTION TO THE STUDY OF CANINE PIROPLASMOSE.

By MM. Nocard, of Alfort, and Motas, of Bucharest.

Translated by A. Liautard, M. D., V. M.*

With Mr. Almy, one of us published last year an observation of hæmoglobinuria of a dog, that minute study revealed to be due to the presence of hæmatozoa (piroplasma) analogous to those of Texas fever; blood of this dog, injected in the jugular of another healthy animal of same species, had given him the disease with all the characters presented by the first. This observation was the starting point of the experimental researches which form the object of this paper. It was not, however, the only one; since we have been able to study at the Alfort clinic, seven similar cases—five in the service of Prof. Almy, who has already published them; two in the clinics of Prof. Cadiot, still unrecorded.

Canine piroplasmose is not altogether rare in France, and the similarity of the evolution of the natural with the experimental disease gives to this paper a real practical interest.

The disease seems to exist also in Italy. Piana and Galli-Valerio have described and printed the parasite that they have observed in two dogs, one icteric, the other anæmic; they noticed its analogy to that of Texas fever; but it does not appear that these authors pushed their researches further, as they have published nothing since.

Celli reports that in dogs from Lombardy, observed in the Roman country, hæmatozoa similar to those described by Piana and Galli-Valerio had been observed.

The disease seems more frequent in Africa. R. Koch says that he observed it several times during his stay in East Africa. Marchoux had already seen it in Senegal, and he presented to

* From the *Annales de l' Institut Pasteur.*

the Société de Biologie drawings of piroplasmas seen in the blood of eleven native dogs, which, nevertheless, seemed in perfect health. It is known at the Cape under the names of "bilious fever," "malaric fever," but principally as "malignant jaundice."

Duncan Hutchéon, in a short note, gave a good description of it in 1899, where he insists on its parasitic nature, already mentioned by Dr. Carrington Purdis, and also upon its transmissibility by inoculation of the parasitic blood, which he obtained with Spreul.

A more extensive work by W. Robertson confirms and completes to the experimental and clinical points of view the indications of Duncan Hutchéon.

Finally, a very interesting paper of Lounsbury, resumed by Robertson in his work, shows that "malignant jaundice" of dogs is caused by a piroplasma analogous to that of Texas fever; that, like it, it is propagated by the intermediary of a special ixode, which Prof. Neumann, of Toulouse, has classified as the "Hæmaphysalis leachi" (Audouin).

CLINICAL STUDY OF THE DISEASE.

To the clinical point of view, canine piroplasmose presents two very distinct forms: In one, the evolution is rapid and almost always followed by death; in the other it is slow, and ordinarily ends in recovery.

(1) *Acute Form.*—The disease is first manifested by loss of appetite and dullness. The dog lies in one corner, indifferent to all surroundings, listless to the calls of his master. From this moment he is feverish; his temperature rises above 40° C., and remains high for two or three days; it then drops suddenly to below normal—perhaps down to 33°; at times, but rarely, the thermic curvature is not so regular; the temperature, always elevated, shows great oscillations, and the dropping occurs slowly and gradually; in very young dogs, which succumb very rapidly to the infection, the hypothermia of the start is often missing, and as soon as the apparition of the intraglobular parasites takes place, the temperature goes down until death.

During the whole duration of the disease, anorexia is complete; the nose is dry and warm; the animal remains lying down, crouched upon himself; the eye dull; he is listless to all excitement.

The mucous membranes (eye and mouth), at first pale, become little by little purplish, then slightly icteric (as soon as the hypothermia has occurred).

But ictere is not constant, and its intensity varies much. Out of 63 cases with rapid development, we have observed it 30 times; in the other 33 cases the mucous membranes remained more or less pale, with sometimes a bluish tint, slightly marked.

When there is ictere, the sclerotics and the teguments are affected like the mucous membranes. The pulse is quick (120–160 a minute), it is small, filiform, sometimes intermittent. The respiration is accelerated (36–48), difficult, gasping, and often, in young animals, accompanied with groans.

In some rare cases, there is vomiting, of greenish mucous matters, sometimes incoercible.

Exploration of the chest reveals nothing abnormal.

Palpation of the abdomen reveals sometimes hypertrophy of the spleen; this, however, is not the rule.

General sensibility is abolished; the patients respond to no excitation, and seem indifferent to the operations they are submitted to.

From the start, walking is stiff, difficult, wabbling on the hind quarters; then paresia occurs; the dog rises only with difficulty; if made to walk, often falls down and finally, during the hypothermic period, paraplegia is almost complete. Towards death, the animal falls into coma; he passes away quietly without struggles.

Once (in dog No. 29), we observed true tetaniform convulsions, and the animal died in opisthotonos, with contraction of all the muscles.

From the apparition of the first symptoms, even when no parasite can be detected, urine is albuminous and remains such

to the end; the quantity of albumin varying with the number of parasites.

It is often rosy, dark red, or black as coffee; this coloration is not due to the presence of blood in nature, as red corpuscles are never found in the urine; there is hæmoglobinuria, but no hæmaturia; the hæmatospectroscope of Henocque shows in it the two bands which characterize oxy-hæmoglobin. The quantity of hæmoglobin may reach as far as 3½ per cent.

The hæmoglobinuric crisis begins ordinarily a little after the apparition of the endoglobular parasites; in excessively acute cases, especially in very young dogs, it lasts until death; at the post-mortem the bladder has been found distended with dark urine, the color of prune-juice.

When the disease lasts a little longer, the hæmoglobinuria disappears and the urine returns to a dark yellow color, at times clearly icteric.

Hæmoglobinuria is not constant; and of 6 cases observed by Nocard and Almy, only three had it; but it is sometimes very fugacious and it may have passed unobserved.

Out of 63 dogs which died at our hands after inoculation, 43 had hæmoglobinuria, more or less severe and of varying duration.

The reactives of Gmelin and of Craft show in the urine the presence of biliary pigment, especially in cases accompanied with ictere or hæmoglobinuria; the reaction of urine is acid, only once did we find it alkaline and in two other cases neutral; sometimes, although rarely, there is polyuria.

The blood is deeply modified; it is pale as if it has been mixed with water; its coagulation is slower, the clot being softer and lighter in color than ordinarily; the serum is of a dark red color; this coloration varies, but increases rapidly at times; it seems that the fragility of the corpuscles, already noticeable in the healthy dog, increases considerably under the influence of the disease. In sub-acute cases, when the hæmoglobinuric crisis is succeeded by ictere, the exudated serum of the clot has sometimes a very deep yellow tint with perhaps a greenish reflection.

When blood has been collected in a large test tube, at the bottom of which a few drops of a solution of citrate of potash has been placed to prevent the coagulation, the corpuscles gather to the bottom of the glass and form a mass with a dark purplish color, which in height scarcely measures the $\frac{1}{5}$, $\frac{1}{10}$ and some $\frac{1}{15}$ of the height of the plasma.

The numeration of the corpuscles reveals the enormous globular destruction that has taken place. In healthy dogs, the number of hæmatics varies between 6,500,000 and 7,000,000 (Malasser's method). From the apparition of the first symptoms, the number of corpuscles diminishes slowly but regularly; then, at the hæmoglobinuric crisis, it suddenly drops down to 2,000,000, and even below. The proportion of hæmoglobin diminishes likewise from 12-13% to 6, 4 and 3½%.

Differing from the hæmatics, the white corpuscles increase in number: From 7000 to 8000 are counted in a healthy dog; in sick individuals the number is doubled, tripled or quadrupled; we have counted as many as 40,000.

The increase occurs almost exclusively in the polynuclear; it is still more marked in the slow forms of the disease.

The alteration of the blood does not consist only in the excessive diminution of the number of hæmatics: When a preparation of blood, fresh or colored after fixation, is examined, one is surprised at the various sizes of the red corpuscles; some are larger by one-third, one-half or two-thirds of the normal diameter; they seem also paler and do not take coloring so deeply; on colored preparations an abnormal number of nucleated globules are also seen. These globular alterations are still more marked in slow forms of the disease.

The acute form of the malady ends ordinarily in death from the third to the tenth day from the apparition of the first symptoms.

(2) *Slow Form.*—This is especially indicated by deep anæmia, muscular weakness, sometimes fever, rarely by slight hæmoglobinuria or ictere.

When it exists, fever is observed only at the outset of the

infection; it is often slight and lasts scarcely for two or three days; it is often absent; most commonly also it is unobserved, nothing serious calling the attention of the owner; it is generally noticed only in the experimental disease. As in the acute form, it occurs early, earlier when the animal has been inoculated through the veins than when under the skin; the temperature rarely goes beyond 40°C., remains there for 36 or 48 hours, then returns to normal; once, however, we have observed a true *quarte* fever in one of our inoculated animals. Most often, fever is insignificant or completely missing.

Anæmia is the most constant symptom of this form of the disease. It is accused by the progressive palor of the mucous membranes, the listlessness of the animals, who prefer to remain lying down, indifferent to the surroundings; diminution in the appetite, loss of flesh, general weakness, dryness of the skin, staring coat. It lasts a long time, from three to six weeks; then, little by little, appetite and liveliness return, the mucous membranes become colored, the animal recuperates its strength; recovery is complete between six weeks and two or three months.

If the urine is examined at the onset of the disease, ordinarily a little albumin is found; this lasts for fifteen to twenty days.

Hæmoglobinuria is very rare; when it exists, it is only for one or two days; most often the urine remains yellow and clear; however, at times it is sedimentous. The reaction is acid; once only we have found it neutral; the urine contained at the same time much sugar; but it is probable that this condition of the urine had no connection with the disease we are considering.

Examination of the blood gives the explanation of the progressive anæmia: The number of red corpuscles diminishes little by little until they are below 2,000,000; in one case there were only 1,200,000 in one cubic millimeter. The hypoglobulin is accused especially after the passing off of the fever, and it increases again after the parasites seem to have disappeared or when they are very rare; after twenty-five or thirty days, the

number of corpuscles increases little by little, but it is not before two or three months that the normal number has returned.

The loss of hæmoglobin is much less accused than in the severe form, when it may drop to 3½%; in one case where the number of corpuscles was only 2,760,000 there still was 9½% of hæmoglobin.

On colored preparations, still better than in the severe form, great differences are observed in the dimensions and coloration of the hæmatics: some are two or three times the normal diameter and color less easily; many nucleated hæmatics are also observed, especially at the beginning of the hypoglobulin.

The number of the white corpuscles is always much increased, from 15 to 30,000; we have counted 54,000 in one case. Hyperleucocytosis exists equally in the mono and the polyneuclears. It is frequent to observe, in the few days following the febrile period (when it exists) leucocytes filled with red corpuscles containing parasites; this phagocytosis, very rare in the severe form of the disease, is exclusively mononeuclear.

As the recovery advances, the number of red corpuscles increases, that of the blood diminishes, and only rare nucleated red corpuscles are found; in opposition numerous masses of hæmatoblasts are observed.

THE PARASITE.

Whatever the form of the disease, examination of the blood reveals the presence of endoglobular hæmatozoa, very closely related to that which causes Texas fever.

Very abundant in the severe form of the disease, it is sometimes in the slow form very difficult to bring it out; yet in examining systematically for several days, if necessary, the blood of the capillary circulation, one may succeed in finding it.

To the point of view of the diagnosis, searching of the parasite is very simple: upon a very clean slide, a very small drop of blood, from a prick of the ear, is placed upon it and spread as a very thin layer with another slide which is pressed on it by its smooth border passed over the first slide; the preparation is then fixed with alcohol-ether or absolute alcohol; and when

the fixator is entirely and spontaneously evaporated, a few drops of phenicated thionine of Nicolli are dropped on the surface of the slide. If the thionine is good, a contact of thirty seconds is sufficient; the slide is washed, dried and examined with a magnifying power of from 5 to 600 diameters. The hæmatics are colored in pale green; the parasites are seen under the form of small bodies indicated by a very clean outside border, strongly colored in blue, with a central portion colorless or with a very pale blue.

Most of the infected corpuscles contain but one parasite, big and round; but others also in the rapid form contain 2, 4, 6, 8, 12, and even 16 parasites; then they are smaller, irregular in their outlines, polyedrical, or at times, though rarely, piriform.

The number of diseased corpuscles varies very much, according to the form of the disease, and in each form according to the period of development. In acute form, during the fever or immediately after, with or without hæmoglobinuric crisis, the parasites are in large quantity. In slow forms, they are so few that they may escape the most minute research.

In these difficult cases, the examination of the slide must be on the point where the spread layer of the blood ends. It is there that the chances are greater to discover the parasites if the blood contains any. It is therefore a wise precaution to have but a very small drop of blood on the slide, so that in spreading it does not go beyond the extremity of the glass.

If one wishes to study the structure and the evolution of the parasite, more complicated modes of coloration must be resorted to, and the examination of fresh blood must be added to it.

The methods of coloration of Romanowski, Vasielewski and especially that of Laveran, give good results; but their manipulations are delicate and often they leave on the surface of the preparation deposits of coloring matter which interfere with the clearness of the preparation and bring confusion.

After many trials, we have adopted the following, which is but a modification of that of Laveran:

The slides, prepared as I have said, are fixed by immersion of about an hour in absolute alcohol; after complete and spontaneous evaporation of the alcohol they are placed, the impregnated side facing downwards, on the surface of a thin layer of coloring matter made as follows:

Hoechst's Eosine (Mark Extra B. U.) solution at 0.5 per 1000	10 c.c.
Phenicated Theonine of Nicolli	1 c.c.
Borrel's blue to the oxid of silver, saturated solution	2 drops.

These three solutions must be filtrated before being mixed, but the mixture must not.

The preparations placed on the surface of the coloring fluid (without the face of the slides touching the bottom of the recipient) are left in it for four hours at least—there is no harm in leaving them twelve to 24 hours.

After that time, they are well washed with running water; then treated from thirty to sixty seconds with the orange-tannin of Grubler, which is poured on them drop by drop. They are again washed, dried and then mounted. The action of the orange-tannin is important, not only because it clearly differentiates the hæmatic from the parasite which it contains, but also because it seems to loosen and facilitate the removal of the precipitates of coloring matter which may have deposited on the preparation.

Colored in this way, preparations facilitate much the study of the parasite: while its protoplasm is colored in pale blue, the nucleus has a very strong red carmine tint; the whole coming out forcibly on the orange coloration of the red corpuscles.

The same method of coloration gives excellent results for the study of tissues; sections (made after fixing on acid sublimate, hardened with the series of alcohols and enveloped in paraffine) are glued on plate, treated for fifteen or twenty minutes in the above-named coloring mixture, washed under running water, exposed from ten to fifteen seconds to the action of orange-tannin, washed again, dehydrated with absolute alcohol, cleared

with toluen or xytol and mounted on balsam. Thus prepared the preparations have an admirable clearness.

The method can also be applied for the study of trypanosomes (of rats, of dourine, or of nagana); the results are always excellent.

The *examination of the fresh blood* allows the consideration of the changes of forms of the parasite under the influence of the amœboid movements which it performs within the corpuscles. This examination gives results truly useful only at the febrile period, or immediately after the dropping of the temperature; it is only at that time that the parasites, then numerous, are moving, and that they multiply with activity.

To be beneficial, the examination must be made in the hot chamber and on a mixture *āā* of blood and aqueous humor or of physiological fluid, deposited in hanging drops over the inferior face of a thin slide resting over a hollowed one.

The use of dry objective (No. 9 of Verick) without Abbé lightening is preferable; but objectives with homogeneous immersion and lightening of Abbé can also be used, providing strong diaphragm is resorted to.

The infected corpuscles are bigger and paler than the others; the hæmatozoa appears as a small rounded mass with its outlines very dark and its centre refringent.

In the hot chamber, the parasite is easily seen changing form; its outlines become irregular; prolongations are formed running in threads towards the periphery of the corpuscles, then contracting to unite again to the central mass of the parasite; quite often two or three of these pseudopodes are seen proceeding from the parasite; these motions are sometimes sufficiently rapid to make the infected corpuscle roll upon itself.

In other cases, when the parasite seems contracted into a globular mass, immobile in the centre of the corpuscle, very refringent and very little bodies are seen moving round it. What is their nature and their meaning, we do not know.

Very soon after the febrile period, the hæmatozoæ seem to

lose their amœboid properties; they remain immobile in the centre of the infected corpuscle as a rounded mass.

There sometimes exist in the plasma parasites at liberty, either because they have succeeded in escaping from the corpuscle or rather because this has been destroyed. They cannot be easily distinguished, when examining fresh blood, from the cellular *débris* or others which are in suspension in the plasma; still, they may by diluting the blood in a physiological fluid slightly colored with the blue of methylen, the parasites taking a slight blue tint which differentiate them from the globular protoplasm or its *débris*, which remain colorless.

This method facilitates also the study of the intraglobular parasite, which becomes slightly colored without arresting its motions. These results of the examination of the fresh condition give the explanation of the great variety of forms that the parasite takes in colored preparations.

Generally at the onset of the disease only one parasite is observed in each infected corpuscle; it is big and rounded; a little later the corpuscles with parasites are in greater number and contain several parasites.

It is then that piriform hæmatozoæ can be observed; agglutinated or not by their tapering extremity; but the pear shape is always very rare.

Towards the end of the febrile period, or immediately after, the most varied amœboid forms appear: the hæmatozoæ are polyedrical, or elongated, or again ramified; their outlines are roughened with asperities and pseudopodes, sometimes very fine and simulating undulated or twisted flagellata.

In the slow forms, after the febrile period, the parasites, irregularly rounded, seem smaller; it is rare to find more than one in one corpuscle.

Preparations made immediately after death with the blood of the capillaries of parenchymatous organs, show a larger number of infected corpuscles; the parasites are also smaller than in the blood of the general circulation and all are almost round.

The size of the hæmatozoa varies not only according to the period of the disease, but also with the age of the sick animal; bigger in very young dogs, when it may fill more than half of the corpuscle surface; in adults it is much smaller, and towards the end of the disease one might believe that it is reduced to its nucleus, round, while the condensed protoplasm forms only a kind of thin surrounding.

The free parasites seem larger than the intraglobulars.

The parasite is constituted by a protoplasmatic mass provided with a nucleus (caryosome or centrosome).

The protoplasmatic matter seems condensed to the periphery, which fixes strongly the coloring matter and resembles an enveloping membrane; the hyaline central part contains no granulation that can be colored by the known methods.

The nucleus presides to the phenomena of multiplication of the parasite; our mode of coloring colors it strongly in red carmine, while it colors the protoplasma in blue.

The form and situation of the nucleus vary very much; during the febrile period, the parasites, round in form, have their nucleus elongated and eccentric; it is closer to the border of the hæmatozoæ on a length equal to about one-fifth of its outline.

In parenchymatous blood, which is always richer in hæmatozoæ than that of the general circulation, the parasite is smaller and assumes principally a round form; the nucleus occupies the centre; and in its immediate vicinity the protoplasm seems rarefied and colors less than at the periphery. This peculiar aspect is likewise observed in the blood of the general circulation taken after death or before death, but kept for several days in a cool place, a cellar.

The multiplication of hæmatozoæ takes place by direct division (bipartition). It is most active during the febrile period. The blood of the general circulation is not good for the study of these phenomena: the division takes place too quick, in an irregular manner, without order, so to speak. On the contrary, in the blood of the capillaries of organs (liver, kidneys, me-

dulla of bones) the division occurs slowly, regularly; all its steps can be followed.

In the normal state, as of "rest", the hæmatozoa is round, and its nucleus also round, is in its centre. When the parasite is about dividing, the nucleus gets elongated, moves away from the centre and towards the periphery of the protoplasmatic mass; then, as the nucleus becomes elongated, it contracts in its centre and soon the division is completed. The two nuclei thus formed then separate from each other running along the contour of the parasite until they reach its opposite poles; at the same time the protoplasm condensates alongside an equatorial line, in such a way that each nucleus seems to occupy the centre of a colorless zone, where the protoplasm becomes more and more rarefied. Soon a notch appears at both extremities of the condensed zone, and little by little, as under the effort of traction in opposite directions made by both nuclei, the notches increase in depth until they are separated only by a thin band of protoplasmatic matter, which still holds the two new parasites united, elongated in pear shape; at that moment the nuclei, which up to then had remained situated on the periphery of the organ, resume their central position in becoming round little by little. Once the separation is completed, the protoplasm resumes the globular, which seems to be the normal state of the parasite.

The new parasites then multiply, according to the same process, into the same corpuscle, which may contain 4, then 8 and later as much as 16 hæmatozoæ.

Thus distended the corpuscle increases in size, then bursts, so to speak, letting free in the plasma the unformed parasites, which thanks to their amœboid motions, go and infect new corpuscles, unless they are absorbed and destroyed by some phagocyte.

It may happen that one of the hæmatozoæ thus formed in the inside of the hæmatic does not multiply in its turn or divides only later. This explains why corpuscles may be found containing 3, 6 or 12 parasites. But in the immense majority

of cases, when several parasites exist, they are in even number.

Sometimes hæmatozoæ are found which show on their outlines little rounded projections, colored at the nucleus in red carmine, as if the parasite could also multiply by granulations. This is very rare, and we have seen it only in fresh preparations.

The parasites are always much more numerous in the blood of the capillaries of parenchymatous organs than in the blood of the heart; it is the kidney that contains the most of infected corpuscles and it is also in the kidney that the number of parasites in each corpuscle is the greatest. It is common to see hæmatics containing 12, 14, 16 and 18 parasites.

Then, in rank of frequency, come the spleen, liver, intestinal mucous membrane and mucous centre.

(*To be continued.*)

ARECOLINE AS A SUBSTITUTE FOR ESERINE.—The Buntin Drug Co., of Terra Haute, Ind., known to all progressive veterinarians through their celebrated veterinary hypodermic tablets, has written the REVIEW to say that "by reason of the enormous advance in the price of eserine salts, it may be a matter of some interest to the veterinary profession to know that for many conditions arecoline hydrobromate may answer the purposes therapeutically of eserine." In support of this assertion they enclosed a copy of the following letter, and say: "By permission of Dr. Walter Lincoln Bell, 679 Vanderbilt Avenue, Brooklyn, N. Y., we quote from his letter of June 4, 1902: *Buntin Drug Co., Terra Haute, Ind.*:—'I am more than pleased with the action of your arecoline hydrobromate hypodermic tablets as a rapid intestinal evacuant, and have had most satisfactory results follow one-half grain injections (which I have not had to repeat) in treatment of acute intestinal indigestion. I have been rewarded with three good recoveries in severe cases of azoturia from administration of one-grain doses of arecoline hydrobromate; a rapid and profuse salivation follows in from five to ten minutes. In a case of laminitis (founder) there was much improvement after the second injection of one grain arecoline hydrobromate, and the animal was able to resume work the following day.'"

EXTERNAL ULCERATIVE ANO-VULVITIS OF CATTLE —A PRELIMINARY REPORT.

By John J. Repp, V. M. D., Veterinarian to the Experiment Station, Ames, Iowa.

Read before the 39th Annual Meeting of the American Veterinary Medical Association, at Minneapolis, Minn., Sept. 2–4, 1902.

Terminology.—The first name applied to the disease under consideration so far as I have been able to learn was "contagious vulvitis of cattle." This name was given by S. Stewart in a verbal report[1] before the Missouri Valley Veterinary Medical Association February 9, 1898. The next name put upon record was "infectious ulcer of the vulva," a name given by C. Miller in a paper[2] read before the Missouri Valley Veterinary Medical Association October 3–4, 1900.

In November, 1901, while investigating this disease in an outbreak which occurred in the practice of S. T. Miller, he told me that he intended to contribute a paper upon the disease for the next meeting of the Iowa State Veterinary Medical Association to be held February 11–12, 1902. I expressed to him the opinion that the names already given to the disease were not appropriate, an opinion in which he readily concurred. He then asked me to substitute a name which he might adopt in his paper. After further study of the disease I submitted the name which appears in the title of this paper. I did this with a full realization of the enormity of the offense of multiplying synonyms and confusing the terminology of a disease. I believe, however, that if a disease has been badly named it is the duty of some one to find a name which is of logical origin and which will be likely to meet with general approval.

The objection to the names already given was twofold. In using the word contagious in the one name and the word infectious in the other the name is made to assume too much. A disease should not be designated infectious or contagious until there is fair proof that it is infectious or contagious. Such proof is lacking in case of this disease. The names were not com-

prehensive enough. They gave but a partial idea of the nature of the process. A name should be as fully descriptive of a disease as is compatible with enforced brevity of a name as applied to a disease. Since adopting the name of my choice for this disease the 17th Annual Report of the Bureau of Animal Industry has been published. On page 28 of that volume reference is made to a disease, which I assume to be the same as the one now under discussion, as gangrenous vulvitis. This name is unsuitable because the process is not gangrenous and because the name is not comprehensive enough.

In defense of the name which I have applied to the disease I would say that the disease is primarily and essentially inflammatory and the name ano-vulvitis sets forth this characteristic and at the same time indicates the location of the morbid process. As the inflammation is ulcerative in character, *i. e.*, characterized almost from the beginning by erosion and superficial loss of tissue, it is best defined by the adjective ulcerative. As the disease has its inception and in mild cases its localization upon the external surface of the labiæ of the vulva it is very appropriately described by the term external. If the mucous membrane of the vulva, which may be considered the internal part, is invaded at all, the invasion is secondary to the skin lesions and occurs only in severe cases.

In applying a new name to this disease I have not been unmindful of the tendency, and in a large measure the accomplished purpose, of medical men to refer all diseases of the external genitals to the domain of dermatoses and to describe each affection under the name of some skin disease which may occur anywhere upon the body. However, the fact that the disease now under consideration extends deeply into the tissues, far beyond the skin, entitles it to a place in nomenclature along with such pathologic entities as gonorrhœa, chancroid and syphilis. One would not be justified in essaying a new name for a disease unless he had first made a diligent effort to identify that disease with one already well known either in human or in veterinary pathology. It is plainly evident that there is no

well-defined disease in animals with which this could be identified. In the field of human pathology I have attempted to identify this disease with noma of the vulva, herpes progenitalis and chancroid, the only diseases of human beings which it even remotely resembles, but without success. Syphilis must, of course, be thought of only to be at once dismissed from consideration. The resemblance to chancroid is in many respects striking, but the difference between them is quite distinct. In order not to prolong this discussion beyond reasonable length I refrain from a presentation of the distinguishing features of these various diseases and the one under discussion, and, instead, refer those interested to recent standard works on genito-urinary diseases and gynecology.

If any one here now or at some other time can supply another name and furnish convincing evidence that it is preferable to the one I propose, I will be very willing to abandon my name for his.

History.—The earliest date at which a report of this disease was made to a veterinary body, so far as I have been able to learn, was February 9, 1898, at which time S. Stewart made a verbal report to the Missouri Valley Veterinary Medical Association. The Secretary of that association reports[3] Stewart as saying that a large herd of heifers, originally from about Trinidad, Colorado, was brought to Kansas City and distributed in small bunches among farmers and that all of these heifers became affected. I assume that these heifers were afflicted with the disease now under consideration.

C. Miller reports[4] that in February, 1898, he observed this disease in 2 herds of young cattle near Ottumwa, Iowa.

Steddom reports[5] that on February 17, 1898, he began the investigation of what was doubtless an outbreak of this disease in Marshall County, Kansas. He visited 4 herds in which the disease existed. He was able to trace the outbreak in one herd back as far as December 25, 1897. The owner suspected that one cow had had the disease and had already recovered when he brought the herd to his farm, December 18, 1897. This is

the earliest outbreak of this disease that I have any information about.

Parker reports[6] that in December, 1899, Steddom investigated an outbreak of this disease at Westmoreland, Kansas.

S. H. Johnston has informed me[7] that in the winter of 1899 he met with an outbreak at Lake City, Iowa.

In January, 1900, I had my first experience with this disease in an outbreak which occurred in a herd at Harlan, Iowa, in the practice of D. H. Miller.

In 1900 or 1901 a disease which, from the brief description given, I would suppose to have been ulcerative ano-vulvitis was reported from Ohio.[8]

The 17th Annual Report of the Bureau of Animal Industry contains on page 28 the following statement by Salmon: "Two outbreaks of gangrenous vulvitis in cattle were reported during the fiscal year and specimens forwarded . . . for examination."

In November, 1901, I investigated outbreaks in several herds at Shelby, Iowa, in the practice of S. T. Miller. These outbreaks have already been reported[9] upon by Miller in a paper read before the Iowa State Veterinary Medical Association, Feb. 12, 1902.

In November, 1901, an outbreak occurred in a small herd near Ames, Iowa.

In December, 1901, an outbreak occurred in a herd at Humboldt, Iowa, in the practice of J. Nicholson.[10]

This is as much of the history of the disease as I have been able to procure. I would not venture to assert that this is a new disease. It is certain, however, that it has not as yet been adequately studied and described. It is not improbable that the disease has been known to veterinarians and laymen for a long time, but no one has been actuated to make mention of it in writing until within the last five years, and then only very briefly.

Kinds of Animals Affected.—So far as I have been able to learn, external ulcerative ano-vulvitis is circumscribed to the bovine species. Females are by far the most frequently af-

fected. In one herd of 25 cattle, 1 to 6 years of age, which I inspected, in which were 21 females and 4 males, all of the females were affected, but none of the males. In another herd which I inspected, there were in one bunch 32 calves, 8 to 10 months old, of which 15 were heifers and 17 steers. All of the heifers and only 3 of the steers became affected. In another bunch were 8 young calves, half male and half female. The females were all diseased, but the males did not become involved. In another herd which came under my notice, 15 heifers became affected, and after a considerable time 2 steers acquired the disease. Other steers in the same lot escaped. In still another herd in a large feed yard, there were being fed about 50 cows and 75 steers. All the cows were affected, but only 6 steers became involved. Steddom inspected one herd of 25, 17 steers and 8 heifers, in which all of the heifers but none of the steers became affected.

To show that there are some exceptions to this, I may state that in another herd 8 heifers and 13 steers were being fattened in the same yard and all acquired the disease.

In several instances ulcerative ano-vulvitis has been observed in spayed heifers.

In respect to age it may be stated that, although it seems rather more apt to affect young cattle, there is very little difference in susceptibility on account of age. I have seen it in cattle ranging from 2 weeks to 10 years of age. In one herd of 32 head a very aged cow was the only one which escaped. In another case a bunch of 22 adult cows being fattened in a yard were affected and later a number of calves in an adjoining yard became involved. I have never observed the disease in an adult bull.

Season when the Disease Occurs.—Ulcerative ano-vulvitis appears to be a disease of cold weather. I have not seen or heard of its eruption earlier than October 15 or later than March 15.

Etiology.—I shall refrain from an extended discussion upon this important part of the subject, for any statement I could

make would be purely hypothetic. I regret that my opportunities of time and place have not enabled me to make the study in this connection which is so very essential to a complete knowledge of the disease. The cause of the disease remains thus far entirely unknown. It may be stated, however, that in every outbreak which I have studied the affected cattle were kept in filthy yards which had been used jointly by cattle and hogs for 18 to 25 years. Some of these yards are poorly drained and at times when the temperature is high enough to cause a thaw they become veritable mud-and-manure-holes. Cattle have not been known to acquire the disease while at pasture. There is no evidence that the disease has any causal relation to coitus.

IS EXTERNAL ULCERATIVE ANO-VULVITIS CONTAGIOUS?

My observations and those of others indicate that it is probably not contagious. On one farm where I made observations there were 8 calves kept in an orchard where the ground was clean, adjoining a stable-yard in which were 25 cattle, all but 4 of which were affected. Only a fence separated the two bunches of cattle, yet none of the 8 calves became in the least affected. In another outbreak the owner traded a cow affected with ulcerative ano-vulvitis to a neighbor for a cow which was free from the disease. None of the neighbor's herd into which the diseased cow went became affected. Incidentally it may be stated that the healthy cow that went into the diseased herd became affected within a week. S. T. Miller informs[11] me that in one instance which came under his observation, a bull from a healthy herd broke through a fence into a neighbor's herd which was suffering from ano-vulvitis, served a diseased cow there and then returned to his own herd and soon thereafter served a cow there; yet this was not sufficient to transmit the disease to the healthy herd.

On March 3, 1902, I received through the courtesy of Dr. S. T. Miller, 2 heifers from a badly diseased herd in Shelby County, Iowa. One of these heifers had been afflicted for about two weeks and the other was in the very early stage of the dis-

ease. On March 8, 1902, 2 healthy heifers purchased from a nearby healthy herd were placed in a small enclosure with them. At the end of 3 months the healthy heifers had failed to acquire the disease. I have no facts which would tend to prove conclusively that the disease is contagious.

Symptomatology.—Mild Cases.—In *females* the attention of a close observer is first attracted to the disease by a considerable swelling and reddening of the vulva. On closer examination it is found that this organ is painful on pressure and, perhaps, shows an elevation of temperature. There are no constitutional symptoms. Within a day or two there will be noticed upon the skin at the inferior extremities of the labiæ vulvæ one or more spots varying from one-eighth to one-half inch in size which show a whitening and opacity of the epidermis. At these points shallow ulcers very soon develop. The ulcers are irregular in contour, there is absence of induration at the border, and the floor is either covered with a thin layer of serous, serofibrinous or puriform exudate or with a scab. The covering is easily removed and upon removal the ulcer has a bright red appearance and bleeds readily upon being manipulated. The ulcers increase rapidly in size. The floor of well-developed ulcers shows small elevations which appear like granulations, but are really islands of tissue which have proven more resistant to the necrotic process. The usual seat of the ulceration is at or near the inferior commissure of the vulva, but it may be localized higher up on the vulva or even upon the anus. In case an ulcer is located close to the muco-cutaneous border of the vulva and extends so deeply as to pass through the skin, its edge may encroach upon the mucous membrane of the vulva; otherwise the vulvar mucosa remains intact. There is no itching, no secretion from the vaginal or the vulvar mucous membrane, no discernible discomfort and no constitutional disturbance. The disease is purely local and is mild in its manifestations. In *males* the trouble is at times localized upon the anus and the skin contiguous thereto, but is more frequently found upon the folds of skin passing from the root of the tail toward

the sides of the anus. The features of the ulceration here are the same as in case of the related structures of the female.

Severe Cases.—Ulcerative ano-vulvitis may assume a very grave character, producing extensive necrosis of the tissues and in the worst cases leading to the death of the animal. In *females* there is a considerable number of cases in which the ulcerative process leads to the loss of the lower portion of the lips of the vulva, leaving only a large, angry-looking, raw surface to mark their place. The ulcer in these cases is phagedenic in nature, bringing about a uniform and rapidly advancing superficial necrosis with sloughing of the necrotic tissues at a correspondingly rapid pace. No large masses of necrotic tissue remain to become putrid, but as fast as the tissue becomes devitalized it is cast off. Thus the process, no matter how much the body is invaded always remains superficial. It is always a true ulcerative process. The necrosis is confined to the surface. In cases of this degree of severity the affected parts emit a very repulsive odor of putrefaction.

The animal loses flesh, is stunted in growth if a young growing animal, the coat is roughened and there is general unthriftiness.

In a few cases the entire vulva and anus undergo disintegration. One yearling heifer which I examined in January, 1900, showed loss of all the tissues between the sacrum, a line about 2 inches inferior to the vulva, and the ischial tuberosities. The loss of tissue extended inward as far as the ano-rectal and the vulva-vaginal boundary. A very large, foul-looking cavity was thus produced. The odor was very repulsive. Still the ulceration was superficial, the dead tissue being in a thin layer. This animal had been lying for several days and kept the recumbent position in spite of urging; refused to eat; had lost much flesh; its coat was rough; was constipated and the urine was retained; it strained at short intervals and persistently, though it did not succeed in passing any fæces or urine. Its condition was deplorable. As recovery seemed out of the question, and, as the resulting deformity of the parts would have rendered the animal

useless if healing could have been induced, the heifer was killed in order that an autopsy might be made. I have reports of 8 other cases which were nearly, if not quite, as badly affected as this. Three of these died of the disease and the others recovered. One of the three that died was a cow 5 years old and the other two were heifers 8 to 10 months of age.

Animals in which the disease makes such alarming progress stand about with the back arched; lose flesh rapidly, become rough in the coat; are constipated; eat sparingly; emit a very offensive odor and evidently suffer much discomfort. The 2 heifer calves spoken of above which died did not suffer from decubitus. They were able to walk about in the evening, but were found dead the next morning.

In *males*, so far as I have been able to learn, the disease does not assume the very grave form seen in females. The invasion is in some cases quite extensive about the anus and root of the tail. In the case of a steer 10 months old which I inspected, there was marked ulceration around the root of the tail, especially on the dorsal surface, and extending forward over the last two sacral vertebræ. The destruction of tissue extended to the bone and there seemed to be imminent danger that the tail would be separated from the body. I have not learned of any deaths in males from this disease.

Course.— It must be admitted that, as a rule, the course of ulcerative ano-vulvitis is rather mild, even when no treatment is applied. I have a record of one herd which I inspected, nearly all of the individuals in which were afflicted, yet, although they were not favored with any treatment, they all made good recovery, without deformity. The disease, however, assumed a chronic course as it existed in the herd for about 5 months and did not disappear until the cattle had been put upon pasture in the spring. The disease, once started, will get a foothold upon all, or nearly all, the individuals in the herd in an incredibly short time, say in 10 days or two weeks at most. Treatment cuts short the progress of the disease. Most cases will be cured in 2 weeks to a month. Severe cases yield much less promptly.

One of the fatal cases in which the necrosis was very destructive to the tissues ran a very short course, the animal having died of the disease within 2 weeks after its onset. The heifer referred to above as having been killed for autopsy and in which the destruction of tissue was very great, is an example of an acute form of the disease, the course in this case not having been over 3 weeks. Cases in which extensive necrosis occurs within 2 or 3 weeks are by no means seldom encountered.

The period of incubation, using this term with reserve in this connection, is very short. In one herd that I inspected a healthy cow for which the owner had traded became affected within a week after being put into a diseased herd. Two other cows brought into this diseased herd at another time also became diseased within a week. In another herd which came under my notice 2 heifers, about 8 months of age, which had been brought into the diseased herd in a healthy condition 10 days before my inspection, I found to be in the early stages of the disease. In still another case a carload of fat cattle which had been affected were taken out of the yard for shipment and 25 head of cows and steers were at once put into the yard. Within 3 weeks nearly all of them had contracted the disease.

The course of the disease in a 6 month old heifer which I had under observation was as follows: On March 3, 1902, 2 weeks after the onset of the disease, the lower part of the vulva was found destroyed by ulceration, leaving a raw surface about 3 inches in diameter. March 12 it was noticed that granulation was well established and that the ulcer was diminished in area by one-half and covered by a dry scab. March 16 further improvement was noted. March 22 the heifer was practically well, a scab about one-third inch in diameter being the only evidence of disease apart from the deformity resulting from the loss of tissue.

The course in a grade heifer 8 months old which I had under observation was as follows: March 3, 1902, this heifer showed on the right lip of the vulva near the inferior commissure a shallow ulcer three-fourths of an inch in diameter and on

the left lip a little higher up an ulcer of about half this size. March 7 this heifer showed marked improvement. March 12 is nearly well. March 16 has entirely recovered. Neither of these heifers received any treatment except a change of locality.

Pathological Anatomy.—Macroscopy.—In all cases there is at the inception of the attack tumefaction and congestion of the vulva or other parts affected. In *mild* cases ulcers appear on the labiæ vulvæ, most commonly at or near the lower commissure, or about the anus of females, or upon the anus or the folds of skin at the base of the tail in males. In ulcers of most recent development only the epidermis and the upper portion of the corium have undergone the destructive process, but soon the entire thickness of the corium breaks down and is sloughed off leaving an ulcer of considerable depth. The ulcers are in a few cases nearly free of exudate and present a reddish floor, but are in most cases surmounted by a serous, sero-purulent, purulent or scaly covering. The exudate is easily removed and when removed there is presented an angry, red, ulcerating surface which bleeds readily upon manipulation or scraping. These ulcers are irregular in contour and their borders are not indurated. Upon the floor of the deeper ulcers there may be seen islands of tissue which have proven to a certain degree resistant to the necrotic process. In *severe* cases the affected parts are involved in an extensive disintegrating process which rapidly invades the tissues. The entire anus and vulva and surrounding tissues for several inches in every direction may be destroyed. The surface of the enormous ulcer thus produced is covered by a layer of exudate and necrotic tissue. This layer is, however, in all cases which I have observed surprisingly thin. Instead of having a thick stratum of gangrenous tissue separated from the healthy tissue by a well-defined line of demarkation as one might expect, there is this thin stratum of exudate without the presence of any distinct line of demarkation. The process of necrosis is at all times a superficial one. The dead tissue is cast off as soon as death takes place. The process is in the truest sense an ulcerative one. At some places upon

the surface the tissues are frayed out, presenting a large number of filamentous projections one-half inch or more in length. When the necrotic debris is removed there is revealed a highly inflamed surface directly underneath. One needs to cut only a short distance—not over one-half inch at most—into this tissue in order to reach apparently healthy tissue.

In one animal, a yearling heifer, referred to above as being very badly affected, upon which I had an opportunity to make an autopsy, I was able to study the pathological conditions quite carefully. The external lesions were such as I have just described. The general condition of the body was nearly normal. The only departure from normal that was distinctly visible was a serous infiltration of the lymphatic glands, especially in the posterior part of the body. These glands were much enlarged, quite succulent and grayish in color, having lost the pinkish tinge common to healthy lymphatic glands. There was no indication of suppuration or disintegration of any sort in the lymphatic glands.

Microscopy.—There is nothing especially characteristic about the microscopic changes in the tissues. These changes are such as are common to inflammatory conditions on surfaces in which the necrotic process predominates over the reparative process. In a general way it may be said that there is at the surface a stratum of necrotic tissue elements underneath which is a stratum in which an active inflammatory process is going on and which gradually merges into healthy tissue below.

At the surface edge of a section made through the floor of an ulcer and at right angles to the floor is a thin layer of detritus consisting of fragmented nuclei, broken down cell contents which has undergone liquefaction and subsequent desiccation, and a liberal amount of fibrin of the fibrillar variety. Below this is a layer of dense cellular infiltration in which the cells are chiefly polymorphonuclear and small mononuclear leucocytes. The presence of the large number of polymorphonuclear leucocytes is in harmony with the clinical aspect of rapid ulceration. In the thinnest sections the two varieties of cells

mentioned are packed so closely together as to obscure or at least to make uncertain the identification of any other varieties of cells which might be present. Below this is a deeper layer of round-cell infiltration which gradually merges into the healthy tissues below. This layer is freer from fibrin than the other layers and is free of detritus. In double staining more of the nuclear and less of the contrast stain is taken. The field is much clearer and more transparent. The walls of the blood vessels in this stratum show cellular proliferation which results in considerable thickening of their walls. The lumen of the vessels and the perivascular spaces are filled with blood corpuscles of which the red ones greatly predominate. Accumulations of red blood cells, partly broken down, are seen at other places without any special reference to the vessels. Occasionally there can be seen newly formed capillaries. A good deal of fibrillar fibrin is found scattered throughout this layer. Plasma-cells, polymorphonuclear leucocytes, transitional leucocytes, lymphocytes and fibroblasts are met with on every hand in this stratum. There is marked serous infiltration between the trabeculæ of connective tissue. This is most prominent in cases where the ulceration has not advanced very far.

There are no well-defined lines of separation between the three strata just described. They merge gradually into one another. The predominant character of the one gives way insensibly to the predominant character of the other.

In one case I was enabled to study a small ulcer which had at its greatest depth but very little more than passed through the cutis. At the edge of the ulcer the integrity of the skin was preserved, there being no demonstrable lesion in it. Approaching toward the centre of the ulcer the first noticeable change was a necrosis of the epithelium of the epidermis shown by a sort of melting together of the cells and the failure of their nuclei to take the stain. At this point there is no especial change in the corium. Still farther toward the centre of the ulcer round-cell infiltration and chromatolysis are encountered. These, of course, involve the corium. Even at this point the

general outline of the epidermis is preserved, it being stretched, parchment-like, over the infiltrated corium beneath, although the morphology of the cells is impaired. Finally one comes to a point where the skin is entirely lost and there is presented a picture such as already described elsewhere.

I have been able to study sections of tissue from animals suffering with this disease in all its stages. Some of these tissues were obtained at autopsy, while others were removed from the living animal at the time of treatment. The tissues were fixed in formaldehyde and embedded in celloidin. The stains used were Van Gieson's, the double stain of hematoxylin and eosin, the double stain of eosin and methylene-blue, and Weigert's fibrin stain.

Diagnosis.—The diagnosis of external ulcerative ano-vulvitis of cattle offers no difficulties. There is no other disease with which there is much likelihood that it will be confounded. The objective signs are sufficient ground upon which to base a diagnosis. The early evidences of the disease are apt to be overlooked. If there is an unusual accumulation of filth having the appearance of a small scab about the lower commissure of the vulva or about the anus, or if these parts are swollen and reddened, there is reason to suspect the presence of the disease and the animal should at once be properly secured and thoroughly examined.

Differential Diagnosis.—Eczema.—Eczema of the skin of the anus or vulva may present naked-eye features similar to those of the early stages of ulcerative ano-vulvitis, but the presence of itching in eczema and its absence in this disease would probably serve to distinguish them from each other. Eczema is characterized by vesicles and by a more diffuse distribution. Moreover, it does not extend deeply into the tissues. The more severe forms of ulcerative ano-vulvitis could not be confounded with eczema.

Vesicular Exanthema of Cattle.—The absence of participation of the vulvar and the vaginal mucous membrane in the pathologic process, the failure to establish any relation with

coitus, the absence of involvement of the male genital organs, the extensive necrosis in bad cases of ulcerative ano-vulvitis would be sufficient to preclude the possibility of mistaking one of these diseases for the other.

Prognosis.—As a rule this may be considered favorable even without treatment. There are some cases, however, which will run rapidly to a fatal termination unless properly treated. Treatment cuts short the course of the disease, and even severe cases, with few exceptions, yield well to treatment. The mortality in the outbreaks which have come under my observation has been about 2 per cent. There has been no mortality in cases which have been treated. Complete recovery, absence of deformity, restoration of heifers to full usefulness are dependent upon treatment early in the disease in each individual case. If neglected, any case may very soon get beyond control.

Treatment.—This may be curative and probably preventive, although our ignorance as to the cause renders preventive treatment problematical. There is some indication that the causative factor is an infectious material derived from yards which have grown filthy from prolonged use without sufficient attention to cleanliness. If this be so the inference would be that the disease can be prevented by thoroughly cleaning the yards by ploughing and hauling to the fields for fertilizer several inches of the surface ground and replacing it with fresh earth, or, better, with gravel or brick pavement. The manurial value of the surface ground would, I believe, be sufficient to compensate for the labor of removing it. If an earth or gravel bottom is maintained it should always be kept well bedded with clean straw. Cattle yards are as a rule too large. If their size was diminished they could the more readily be kept clean.

Curative treatment has been followed with good success. The underlying principles are disinfection and the application of some protective dressing. My experience leads me to believe that the removal of the affected herd to new and clean quarters as soon as the presence of disease is determined would be a very

valuable part of the curative treatment and would in the milder cases be all the treatment that is necessary.

Steddom reports[12] as follows in reference to the treatment of an outbreak in Kansas: "The first appearance of this disease in the calves was noticed . . . three weeks ago, and a week later treatment with medicine . . . (nitrate of silver as a caustic and creolin—5 per cent. solution—as a wash) was commenced. But one application of caustic and creolin has been given each animal. . . . They are all rapidly recovering."

C. Miller reports[13] his treatment as follows: "Using carbolic acid as an antiseptic, I took hot water and cleansed the parts, tail included, thoroughly, after which I applied a strong solution of ordinary white lotion, using a piece of cotton in applying it to the parts. The tail, where it came in contact with the vulva, was covered with vaseline, also the parts of the vulva not involved in the ulcer. In those cases where the ulcer was small I touched with a pencil of silver nitrate, which had the effect of arresting the action of the microörganism at once. In fact, all the ulcers in whatever stage responded to the former treatment and commenced healing slowly from the first application. These applications were made four consecutive mornings, when the healing process was so far advanced that further treatment was deemed unnecessary, and within ten days they were completely healed with no traces of the disease except in those cases where the vulval tissues were so nearly completely destroyed before any application was made."

D. H. Miller reports[14] as follows upon his treatment: "I removed all the diseased tissue that I could with curved scissors. Of the 15 treated I applied to one-third tincture of iodine, to another third was applied a strong solution of corrosive sublimate and to the rest a strong solution of creolin. This treatment was repeated twice. All recovered very rapidly. One treatment appeared to be as good as another. There has never been any recurrence of the trouble in the two years since the outbreak."

S. T. Miller reports[15] as follows upon his method of treatment: "I used for treatment a wash of a strong solution of mer-

cury bichloride to cleanse the parts, after which I applied an ointment made up as follows :

℞	Iodoform,	20 grains
	Oil of eucalyptus,	40 minims
	Carbolic acid,	20 minims
	Petrolatum, enough to make	2 ounces.

This treatment effected a very speedy and permanent cure."

Miller does not state the strength of the corrosive sublimate solution used, but has since informed me that it was about 1 to 200.

L. A. Klein reports[16] as follows upon the treatment he pursued in the outbreak at Ames: "My treatment consisted of cleansing with creolin solution, cauterizing with nitrate of silver, followed by daily dressing with an ointment of acetate of lead 20 parts, tannic acid 10 parts, carbolic acid 5 parts, lard 65 parts. The case did well under this treatment. It was not very far advanced when I took hold of it."

J. Nicholson informs me[17] that in a herd he was called upon to treat for ulcerative ano-vulvitis he at first made use of a 5 per cent. solution of carbolic acid, applied by projecting it upon the parts with an ordinary piston syringe, and followed it by application of boric acid. This was used about 2 weeks without good results. The treatment was then changed to creolin (Pearson) 1–40 applied by means of a syringe. The disease yielded quickly to this treatment. Only two applications were made except in 3 very aggravated cases which had to be separated from one another and treated by creolin applications over a considerable period of time.

Although other measures doubtless do bring good results, I believe the best results are to be obtained by removal of necrotic tissue with the scissors or the curette, disinfection with some strong disinfecting solution such as referred to above followed by the application of some such ointment as is formulated above. The advantages in the use of an ointment are that it keeps a curative agent constantly in contact with the affected area, prevents further contamination and provides in a measure

against the excoriating influence of the movements of the tail.

I am convinced, also that removal of the entire herd to new, clean quarters and the subsequent isolation of the severe cases will materially hasten the recovery.

Terminations.—Mild cases make a complete recovery without any visible scar formation. In moderately severe ulceration, where healing takes place without extensive scar formation, the labiæ of the vulva are frequently left permanently thickened, indurated and with diminished elasticity. In animals in which the ulceration has been extensive, if recovery occurs, there results a very marked deformity of the vulva. I offer the following observations which I have made in this connection :

No. I.—Grade Hereford heifer, 8 months old. This heifer had suffered considerable ulceration of the vulva, but the healing took place without treatment within 5 weeks after the beginning of the attack. After healing had taken place I noticed that the orifice of the vulva was so small as to barely admit my little finger. Believing that this heifer would be useless for breeding purposes, I performed oöphorectomy upon her. I have seen her a number of times since and she is doing well.

No. II.—Grade Aberdeen Angus heifer, one year old. This heifer suffered a very severe attack, the ulceration extending quite deeply, as far laterally as the tuberosities of the ischium, upward to the tail and downward to a line two inches below the vulva. Since healing there is scarcely any trace of the lips of the vulva and the external orifice admits only the index finger. The anus is considerably shrunken by scar-formation. The growth of the animal has been much interfered with by the disease.

No. III.—Grade shorthorn heifer, 8 months old. Was quite badly affected. After healing only a small vestige of the labiæ remained. The orifice will admit only the forefinger. The animal has been much stunted in growth.

No. IV.—Grade shorthorn heifer, 8 months old, which had been seriously affected. Now there is almost no part of the lips

of the vulva left. The vulvar orifice is only a slit about five-eighths of an inch long and admits with difficulty the end of a lead pencil of ordinary size. The urine is passed with considerable force in a stream about the size of a large wheat straw. This heifer is much stunted in growth on account of the disease.

No. V.—Grade heifer, 8 months old. The lips of the vulva are tumefied, knotted and much indurated. The vulvar orifice is about one and one-half inches long and admits the index finger easily. The animal is considerably stunted by the disease.

No. VI.—Grade shorthorn yearling heifer. Vulva tumefied and indurated. Orifice will admit two fingers. There is considerable scar-formation.

In heifers thus deformed their posterior aspect bears a close resemblance to that of a steer, and a careful examination is in some cases required in order to make sure of the sex of the animal.

D. H. Miller reports[18] that in the worst cases among the heifers in a herd which he treated, the vulva was entirely destroyed, and when healing occurred under the influence of treatment, only a small hole was left for the heifer to urinate through.

In the most malignant cases the necrosis continues to an extreme limit, causing extensive loss of tissue until finally death results.

Economic Importance.—This has in a large measure been indicated under the head of "Terminations." It is readily seen that such widespread loss of tissue with consequent deformity and contraction of the outlet of the genital canal would unfit a heifer or cow for breeding purposes. She would receive the service of the bull with difficulty if at all. But, even if service of the bull would be possible, or, if impregnation should be accomplished by some artificial means, still there would remain an obstacle to parturition which would, to say the least, render breeding impracticable. The only logical recourse is to submit such an animal to oöphorectomy. This would be little, if any, loss in

case of a grade animal or a pure bred one of small intrinsic value, but the loss would be very serious if a valuable pure bred heifer or cow should be involved.

The loss through fatalities is not to be overlooked in the consideration of the economic importance of the disease. If we add to these factors the loss through poor nutrition, stunting in growth, trouble and expense of treatment and discouragement to the owner, there is in the aggregate enough economic loss to give ulcerative ano-vulvitis a rank of considerable importance in the catalogue of diseases which afflict our herds.

The owner of 80 head of cattle, about two-thirds of which were affected and two of which died, estimated his loss on account of the invasion of the disease at $300.00. Another farmer sold a carload of imperfectly fattened cattle because they became affected. He lost by having deficient weight and by a subsequent advance in the price of fat cattle per pound.

BIBLIOGRAPHY.

1. AMERICAN VETERINARY REVIEW, XXII, 70.
2. *Journal of Comparative Medicine and Veterinary Archives*, XXII, 89–92.
3. AMER. VET. REV., XXII, 70.
4. *Jour. Comp. Med. and Vet. Arch*, XXII, 89–92.
5. Fifteenth Annual Report, Bureau of Animal Industry, Washington, D. C., 1898, 382–384.
6. *Jour. Comp. Med. and Vet. Arch.*, XXII, 92–94, and AMER. VET. REV., XXIV, 682–684.
7. Verbal communication.
8. *Breeder's Gazette*, XL or XLI.
9. AMER. VET. REV., XXVI, 326–327, and *Jour. Comp. Med. and Vet. Arch.*, XXIII, 285–286.
10. Verbal communication.
11. " "
12. 15th An. Rep., Bur. of An. Ind., Wash., D. C., 1898, 383.
13. *Jour. Comp. Med. and Vet. Arch.*, XXII, 91–92.
14. Personal letter.
15. *Jour. Comp. Med. and Vet. Arch.*, XXIII, 286 and AMER. VET. REV., XXVI, 327.
16. Personal letter.
17. Verbal communication.
18. Personal letter.

MOLASSES AS A FOOD FOR HORSES.

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Read before the 12th Annual Meeting of the New York State Veterinary Medical Society, at Brooklyn, Sept. 9 and 10, 1902.

In volume XXV., No. 11, of the American Veterinary Review, published in February, 1902, Dr. G. E. Griffin, Veterinarian Artillery Corps, U. S. A., and stationed at Fort Sheridan, Ill., makes a most interesting and instructive report upon the value of molasses as a food for horses; while serving with the 5th cavalry in Porto Rico from 1898 to 1901, he observed that the natives fed their ponies exclusively upon a very poor quality of grass mixed with molasses, and that a large quantity of molasses was added to their drinking water; and that the animals endured surprisingly the hard usage and brutal treatment they were subjected to by the native Porto Rican and Spaniard.

This caused him to begin a series of experiments with feeding molasses to army horses. He selected eight horses on January 1st, 1899, and continued to experiment until June 1st, same year. The regular rations, consisting of twelve (12) pounds of oats and fourteen (14) pounds of hay per day for each horse, were gradually reduced and cut grass mixed with molasses, diluted with twenty-five per cent. (25%) of water was substituted. The animals the first day or two refused, or ate but sparingly of this substitution, but gradually became accustomed to it, and by the tenth (10th) of the month all the horses were eating thirty-five (35) pounds of cut grass and fourteen (14) pounds of molasses daily, when the regular rations of oats and hay were withdrawn.

From the 1st until the 17th day of January, these animals were doing the usual routine work of the garrison, amounting to five (5) or six (6) miles a day. Beginning on the seventeenth (17th) of January the regular amount of work, consisting of twelve (12) miles a day—that is, eight (8) miles walk, two (2) miles regulation trot, one (1) mile slow gallop, and one

(1) mile fast gallop, and carrying about two hundred three (203) pounds—was begun and continued every day except Sundays until the termination of the experiment.

During the first ten (10) days, while the regular ration of hay and oats were being reduced and the horses failing to eat the new food, each animal lost about twenty-seven (27) pounds in weight; but, beginning on January 26th, they commenced to pick up, and by the 5th of February all of them regained their original weight and continued to improve, so that by the 1st of March, each animal had gained about fifty (50) pounds over the original weight.

Early in February it was observed that all the animals showed a tendency to constipation, and to correct this a little bran was given, which had to be repeated on an average of every two (2) weeks.

Dr. Griffin also experimented with four (4) horses which had been on the sick report for a long time, suffering from chronic indigestion and its consequent loss of condition, scratches, skin abrasions, etc. On February third (3d) all of them were suddenly deprived of their grain and hay and put on a ration of six (6) pounds of molasses and twenty (20) pounds of grass daily. They refused the new food for two days, but on the sixth (6th) they cleaned out their mangers and continued to feed well. These animals commenced to pick up at once, and within a few weeks had improved so wonderfully that their drivers failed to recognize them.

Dr. Griffin concludes his interesting article by saying that all the horses partaking of the molasses improved in spirit, coat, condition, wind and flesh, looked better than any other horses in the garrison, and he draws the following conclusions:

(1st) Thirty-five (35) pounds of grass and from thirteen (13) to fifteen (15) pounds of molasses as a daily allowance is sufficient to maintain a horse of one thousand (1000) pounds weight in good condition in a climate similar to that of Porto Rico.

(2d) Sudden change from dry food to this ration is not at

all injurious and does not derange the digestive apparatus.

(3d) That horses on this ration appear to be able to do more work and present a much better appearance.

(4th) That the cost of feeding is reduced from about twenty-seven (27) cents per day, to fifteen (15) cents per day.

Dr. Liautard, who has spent the last three (3) or four (4) years in Paris, France, but continues to take an active interest in veterinary matters in this country, having read Dr. Griffin's article on "Molasses as a Food for Horses," made a thorough investigation of the subject in the French Capital, and publishes his discoveries in a leading article in Volume XXVI, No. 4, AMERICAN VETERINARY REVIEW, issued July, 1902. Dr. Liautard, recently visited the French horse-show and noticed a little side exhibition where molasses bread and molasses biscuits were sold. He attended a meeting of the Société Centrale where the question of molasses feeding became the subject of a most interesting discussion, in which very important facts were presented by one, Mr. Lavalard, who is director of the cavalry of the Compagnie Generale des Omnibus, and having charge of fifteen hundred (1500) horses.

Mr. Lavalard has had all his horses which weigh between five hundred (500) and six hundred (600) kilog. each, fed on the following rations for a long time:—

Crushed oats, corn and beans mixed, 7 kilog.; molassed peat, 2 kilog.; cut straw, between 3 and 4 kilog., with no hay whatever; and reports most gratifying results, and said that the cost of feeding had been reduced from about fifty-five cents (55 c.) to a fraction over thirty-five (35 c.).

Dr. Liautard says that many compounds of molasses have been made, but that molassed peat, sold under the name of molassine, is to-day extensively used, not only in Paris, but in the German, Austrian and Russian armies, and from the general total of observations made, the following conclusions have been adopted:

(1st) That there is no danger or inconvenience whatever to give in the daily rations of a horse at least six (6) kilog. of

molassed peat of good quality in the proportion of twenty per cent. (20%) of peat and eighty per cent. (80%) of molasses.

(2d) That to the extent of one (1) kilog., at least molassed peat takes absolutely the place of the same quantity of good oats.

3d) That by this change of diet the general condition, muscular power, energy to work, and health, not only remain perfect, but that the coat looks better and more glossy.

As veterinarian to the firm of Arbuckle Bros., sugar refiners and coffee dealers, of this city, employing about one hundred (100) head of heavy draft horses, which have been fed to a very large extent upon molasses for over one (1) year, I have had an excellent opportunity to observe its effects, not only as to its nutritive value as a food, but also as to its action upon the general health of horses.

Arbuckle Bros. having shipped cargoes of molasses to Europe to be used as food for horses, decided to experiment with it in their own stables, and on April 15th, 1901, selected two extremely unthrifty looking animals as subjects.

No. I. weighed 900 pounds; No. II. weighed 940 pounds. Both animals were photographed and their pictures plainly show their miserable condition.

Without any preparation whatever, they were suddenly deprived of their usual rations of hay and oats and received one (1) quart of molasses diluted with three (3) quarts of water and mixed with five (5) pounds of cut hay three (3) times a day and were allowed to drink all the water they wanted, but received no long hay, nor any other kind of food and no exercise. For a day only they minced over their rations, the second day they cleaned out their mangers, and continued to eat well until the termination of the experiment, which lasted six weeks. It was noticed that during this time both animals consumed larger quantities of water, but showed no symptoms of constipation or diarrhœa or any other signs of digestive disturbances; their general condition improved wonderfully in two (2) weeks time. No. I. had gained 40 pounds in weight; No. II. had gained 45 pounds in weight; in four weeks time No. I. had gained 95

pounds in weight and No. II. had gained 102 pounds in weight. Both animals were shedding their old coats and by June 1st, No. I. weighed 1075 pounds and No. II. weighed 1086 pounds and both showed beautiful new glossy coats and when led from the stable were full of play, life and energy, and could not have been recognized as the same animals. One was sold to a retail grocer in this city and the other was retained by the firm and sent to work. Both animals remained in good condition and did their work well, in spite of the fact they had not been exercised in six (6) weeks.

The success of these experiments caused the firm to begin the systematic feeding of all their heavy truck horses, one hundred (100) in number, with molasses on June 1st, 1901. At this time all of the horses were in fair working condition ; average weight of each about seventeen hundred (1700) pounds, and doing an average days work of ten (10) hours, seldom going any faster than a walk, but pulling very heavy loads ; two-horse trucks carrying twenty-five (25) bbls. of sugar, or about five and one-half (5½) tons ; three horse trucks carrying thirty-five (35) bbls. of sugar, or about seven and three-quarter (7¾) tons. Each animal received a mixture of one (1) quart of molasses diluted with three (3) quarts of water and thoroughly mixed with (6) pounds of good quality of cut hay, one and one-half (1½) quarts of corn meal, and two and one-half (2½) quarts of course bran for breakfast, five (5) quarts of dry oats in the middle of the day while in harness, and the same mixture and quantity of molasses, cut hay, corn and bran for supper, with eleven (11) pounds of long hay added for the night.

Under these rations and doing the same amount of work all the animals gradually improved in condition and gained in weight, their coats became slick and glossy, and to-day there is no finer-looking truck horses in Greater New York. Their general health has been excellent, and cases of acute indigestion, or spasmodic colic, have been very rare in Arbucles' stables during the last fourteen (14) months, where they were quite frequent in former years.

The success of Arbuckles, together with the report published by Drs. Liautard and Griffin, prompted me to try molasses feeding among my own horses and some of the patients in the infirmary.

Two patients, one a brown gelding greatly reduced in condition from the acute pain of an open joint, and the other a bay truck horse, poor in flesh and very lame from painful ringbone on an hind extremity, together with my own five driving horses, were selected for the experiment.

On Aug. 1st, patient No. I., brown gelding, weighed 1250 pounds; patient No. II., bay truck horse, weighed 1140 pounds. They received three (3) pounds of molasses, diluted with three (3) quarts of water and mixed with six (6) pounds of cut hay, and two and one-half (2½) pounds of corn meal, and two and one-half (2½) pounds coarse bran morning and evening, and about three (3) pounds of long hay at night. My five (5) driving horses received the same rations with the addition of four (4) quarts of dry oats in the middle of the day.

The two (2) patients improved very rapidly in condition, and on Aug. 15th, No. I., brown gelding, weighed thirteen hundred and twenty (1320) pounds, having gained 70 pounds. No. II. weighed twelve hundred (1200), showing a gain of 60 pounds. Sept. 1st, No. I., brown gelding, weighed fourteen hundred and fifty (1450) pounds and No. II., bay truck horse, weighed twelve hundred and fifty (1250) pounds; total gain in thirty-one days, No. I., brown gelding, 200 pounds. No. II., bay truck horse, 110 pounds.

I very much regret that my driving horses were not weighed when the change of diet was commenced, but they have done their usual amount of work, they drive up well, do not fag out in traveling long distances, and are certainly looking much better than they were five or six weeks ago, when they were getting from twelve (12) to fifteen (15) quarts of white oats and about fifteen (15) pounds of long hay daily, and as in all other experiments, not the slightest signs of indigestion were noticed.

From the above described practical feeding experiments conducted in different countries, and under widely different conditions, it is safe to conclude :

(1st) That molasses of a good quality is a most nutritious food for horses, easily digested and assimilated, and will in many cases correct faulty digestive processes.

(2d) That one quart of molasses at a cost of three (3) cents will take the place of from three (3) to four (4) quarts of good quality oats at a cost of from four and one-half (4½) to six (6) cents.

(3d) That a sudden change from dry oats to molasses mixed with other food stuffs is perfectly safe and causes no disturbances of the digestive organs.

(4th) That molasses-fed horses will do fully as much work and at the same time remain as a rule in much better general condition than animals fed on dry food, while the cost of feeding is reduced from twenty-five (25) to thirty-three (33) per cent.

At first glance it seems very strange that an article of a semi-solid consistency, sweet of taste, dark in color, sticky and unpleasant to handle, should be able to take the place of nice, clean fine looking oats, which from time immemorial has been the recognized standard food for horses ; but when we study the subject for a few moments from a physiological point of view, and at the same time consider the conditions under which our work horses are kept, most all of you will probably agree with me that it is not at all surprising, but perfectly logical.

It is an established physiological fact that all foods entering the animal body by way of the mouth must be reduced to a soluble condition before absorption into the general circulation can possibly take place.

It is also an undisputed fact that starches must be converted into sugar or glucose before absorption or assimilation takes place.

Oats being a hard dry substance and largely composed of starch, requires a great deal of preparation on the part of the

animal before it is reduced to a soluble condition and its starch converted into sugar. It must be thoroughly masticated or triturated by the molar teeth and mixed with the various salivary secretions before it is fit for stomach digestion.

In the stomach and small intestines the gastric, pancreatic and intestinal juices, together with the bile from the liver, must be brought into contact with it, each in its turn and each doing its allotted work, before the wonderful chemical transformation reducing the hard dry oats into the nutritious pabulum called chyme is accomplished.

The question now arises: Is this intricate process always accomplished in the horse? Anyone who has had experience with hard-working draught horses will agree with me that quantities of whole oats, or partly crushed oats in various stages of decomposition and putrefaction, are found in the manure of many horses, and in bad cases the manure is of an unnatural color, very offensive and of a semi-solid consistency. This proves that the process of digesting oats is imperfectly performed, that they are not always reduced to a soluble assimilable condition and, therefore, not only lose much of their nutritive value as a food, but remain in the intestinal tract decomposing, fermenting, generating gases and causing colics and more frequent milder forms of intestinal disturbances.

Many such horses are always hungry and will eat unlimited quantities of oats and receive but little benefit therefrom, and remain in poor condition, while others become slowly poisoned from the undigested fermenting residue constantly present in the alimentary canal and have but little appetite for food of any description.

Now, let us consider the conditions under which our work horses are kept: many of them work from eight (8) to twelve (12) hours a day, draw heavy loads and are obliged to travel many miles; at five (5) or six (6) in the morning they receive a full meal of dry oats, and after feeding are allowed all the water they desire to drink and are immediately placed in harness and kept steadily to work until 11 or 12 o'clock, when they

receive their noon meal, consisting of from four to eight quarts of dry oats fed out of a canvas nose-bag; as soon as the meal is finished they must again assume their regular drudgery, and continue until 5, 6, or 7 o'clock at night, returning to their stables completely tired out and greatly exhausted. From four to eight quarts of oats and from 16 to 20 pounds of hay are placed in front of him and he is left for the night.

The poor animal is hungry when his noonday meal is served, and he is hungry and exhausted when his evening rations are placed in front of him. His system demands nutrition and he greedily devours his oats and hay, but unfortunately does not take time to masticate it properly, and the above-described digestive disturbances, resulting in mal-nutrition and mal-assimilation, are the inevitable results if he is constantly fed on dry food, which is difficult to digest, and as we have seen requires so much preparation.

Molasses, on the other hand, while it contains a larger quantity of nutritive material than oats, is in a soluble condition the moment it enters the mouth and, therefore, readily digested and absorbed. If properly diluted with water and thoroughly mixed with a liberal quantity of cut hay, a little corn meal and bran, it serves to soften the other foods and renders their digestion much easier, and I believe that most all work horses, at least, would be greatly benefited if they received from two to three quarts of molasses a day.

NEW METHOD OF VACCINATION AGAINST ANTHRAX.—Dr. G. Sobernheim (*Berliner klinische Wochenschrift*, June 2d,) has found that it is possible to immunize sheep and cattle against anthrax by the single or combined use of serum and cultures. Immunization by the feeding of anthrax spores was also found practical. The author made 2,700 injections without a death or any serious disturbance of health in the animals. The practical result was that wherever anthrax was prevalent, it was possible to stamp it out at once. None of the immunized animals were taken sick, during a period of nine months' observation, despite the existence of anthrax in the neighborhood. Occasionally, the injections were of curative value.

BARRENNESS OF BOVINES.

By Charles Schmitt, V. S., Dodgeville, Wis.

Read before the 39th Annual Meeting of the American Veterinary Medical Association, at Minneapolis, Minn., Sept. 2 to 5, 1902.

During the past month my thoughts often turned to this meeting, and I wondered as to what you might be expecting of me, under the title of my paper. Perhaps I could have selected a more interesting subject, but none more important to the veterinary profession.

Breeders of fancy cattle become alarmed when they pay a good price, say from five to twelve hundred per head for cows or heifers, and then find themselves confronted with a barren animal, seemingly a loss and a poor bargain.

Literature is silent to a great extent on this subject, unless a manufacturer of some device of impregnators or pessaries, urges his sale by attempting to make a few explanatory remarks.

I will not attempt to discuss the barrenness of the male sex, but will confine myself to the female. The field is so large, that any attempt to describe the conditions fully would take volumes and days for discussion. To make my paper short I will mention only the most common and important abnormalities that prevent impregnation of the ovum.

Being located in a district where the breeding of fine cattle is made a specialty, I am quite frequently called upon by owners of such animals, who say: "Doctor, I have a heifer that I got last year and I cannot get her with calf," or perhaps it is a cow that aborted some months ago, "Do you think that anything can be done for her? I would give most anything to get a calf from her. She is a good one; can't be beat." If the veterinarian can not give or do something to correct the abnormality, the fine animal will have to go to the butcher's block, and what a great loss it is to the owner.

It is somewhat difficult for me to give a minute description of the abnormalities that present themselves in those barren

animals without a specimen before us, but with your permission, I will do the best possible under the circumstances. I know that all of you are familiar with the parts in question. The vagina, cervix, womb and the ovaries are the principal organs that we have to deal with in these cases. The following abnormalities are the most common to prevent conception: Stenosis or stricture of the os uteri, catarrh or leucorrhœa, occlusion or unnatural formation of the os uteri.

1st. Stenosis of the Cervix: Among the affections of the cervix, stenosis plays an important part. It may affect the entire canal or a great part of it, or it may be confined to one or both œstia. Total stenosis of the cervix not infrequently occurs as a congenital defect.

In some cases a very fine probe that can scarcely be seen or felt, will, without much difficulty, penetrate the external os and then enter the uterine cavity proper through the canal. But in the majority of cases this is impossible. To judge from my experience, this high degree of stenosis renders the entrance of the sperma difficult, or may even prevent it. This occurs mostly in cows that have aborted, at about six months' pregnancy.

There is usually a great deal of inflammation and a general discharge from the womb and frequently laceration of the os. With these conditions present, stenosis is confined to the os-externum, and can scarcely be discovered on examination by touch, but by the aid of the speculum is discovered to be a very small round opening.

The opening formed by the external os is round, not soft and flexible, but generally strongly resistant and of a whitish appearance. Desquamation of the epithelium in the surrounding parts also occurs. The cervical canal behind it may be narrowed or normal.

In one case I observed that the cavity was filled with large masses of pus. Here the uterine mucous membrane is frequently in a catarrhal condition. I am not acquainted with the origin of stenosis, but I have observed in several cases that

stenosis occurs from too long continued retention of the placenta or fœtal envelopes.

Desquamation of the epithelium and intense swollen cervical mucous membrane easily produce an acquired stenosis of the opening alone.

The experience of the breeders and also of the veterinarians is that sterility in horses is traceable to a considerable extent to stenosis of the cervix. General Dumas gives us in his work on the horses of the Sahara an entire series of remedies, which the Arabs use for the apparently not rare cases of barrenness, what they call buttoned-up mares. These remedies consist mainly in dilating the narrowed cervix with the hand or with some hard instrument. French veterinarians, like Andrea, Eleonet and M. A. Collin, found stenosis of the cervix to be a frequent cause of barrenness. The German veterinarian Phil. Von Walter called attention to the process which the Tyrolese peasants pursue, consisting in an artificial dilating of the os uteri by incision, a proceeding which is said to have been followed by success.

2d. Catarrh: Another condition that prevents impregnation of the ovum is catarrh of the cervical cavity, justly considered as a not infrequent cause of barrenness. It is an important complication of another anatomical lesion, which causes barrenness. But it alone may even obstruct conception, when it causes a great hypertrophy of the mucous membrane, brought about by the swelling of the glandular elements, and above all by cystic degeneration of the mucous follicles. A canal that is already narrowed may be so plugged that it is difficult for a sound to penetrate. The hand here receives the impression as if the sound was passing through a soft but strongly compressed mass; even in the normal condition it is not very favorable for the advance of the spermatozoa.

This must be still more so in catarrh when the projections tightly fit into one another. In such cases not only the glassy semi-fluid and tough mucus that is produced by the mucous follicles in large quantities collect in the cavity proper. As

the mass is more readily produced than it is voided through the os externum, it not only closes but dilates the canal, which in turn by its resistance exerts a strong pressure against the tough mass of mucus, thereby rendering the advance of the sperma impossible. There have been many cases in which a single removal of the mucous plug has led to conception.

It is impossible to make a reliable statement in regard to the frequency of cervical catarrh as an obstacle to conception. This affection occurs more often and is so common in barren animals, that it is diffiult for the veterinarian, except by close examination, to distinguish those cases from other causes, being common with other affections.

3d. Occlusion, or Unnatural Formation of the Cervix: All unnatural formations around the cervix may prevent conception. Neoplasms that occur at the cervix uteri may, under certain circumstances, render conception more or less difficult. We have already become acquainted with catarrh of the cervix, its mucous discharge, cystic degeneration, desquamation of the epithelium, with excessive inflammation which will lead to neoplastic formations. With mucous polypi, the number and size may produce a plugging of the cervical cavity or stop it up by filling the most narrowed part of the canal at the external or internal os.

A similar obstruction is formed by a fibrous polypi that starts from the walls of the cervix. This distends the cervical cavity so that the walls surround the tumor more tightly, and thereby the lumen of the cavity is diminished, though in such cases the softening of the walls of the cervix causes the latter to be less tense. Yet the very fact that the cervix is diminished would alone render conception difficult.

When the neoplasm has advanced, even if confined to one wall, the cervical canal is mechanically stopped up, and if ulceration has once begun the corrosive fluid will exert a deleterious influence upon the sperma.

The frequency of unnatural growths that lead to barrenness is not great. It seems that the polypoid excrescences form the

majority of them. I recall the case of a mare, where they tried for eleven years to get her with foal, but failed. After close examination I found that an unuatural growth, the size of a large rose, was protrudiug from the cervix, leaving a small depression where the canal should be. The os externum was covered by the growth. After removing the growth, the mucous discharge disappeared and the mare became with foal. Another case was a cow that had great difficulty in delivering her calf, was considerably lacerated, especially the cervix, and partly retained the placenta, which caused a corrosive fluid for months. A fibrous polypi developed, which protruded through the cervix.

I do not wish to weary you with a long discussion upon local affections. Just a word about barrenness in high-bred heifers, that receive the best possible care and are prized very highly for their offspring, but fail to propagate. The question arises, but to answer it is a problem that has not been solved: Why does the rich man's wife fail to propagate?

The finely developed nervous system, the nutritious food, the great quantities of fat, and lack of sufficient exercise and fresh air act as an important factor in barrenness. From my observation, the nutritious food fed to those animals causes an increase in the flow of blood to the parts in question, which causes an acid discharge from the mucous membrane, which in normal conditions would be neutral. Out of eleven cases, eight were acidulous. This condition is deleterious to the spermatozoa. I trust that these few remarks may evoke a general discussion of this subject, and so aid in giving us the correct pathology of the conditions that cause barrenness.

PENNSYLVANIA PRACTITIONERS.—In the State of Pennsylvania there are registered 1700 names as licensed veterinary practitioners; but 1000 of these do not practice (having died, moved away, or are pursuing other vocations), and of the remaining 700, about 320 are graduates. It is proposed to have a new registration, so as to sift the names down to those who are actually engaged in veterinary practice.

SOME WOUNDS OF WAR.

By Coleman Nockolds, M. D., V. S., Vet. 1st U. S. Cavalry,
Batangas, P. I.

(*Continued from page 516.*)

Gunshot wounds may be divided into two classes, simple and complicated. In either kind the primary symptoms are fright, hæmorrhage, pain and shock. The animal is always frightened, but there may not necessarily be any visible bleeding. It is quite possible that death may occur quickly from internal hæmorrhage from the division of some of the larger abdominal or thoracic blood-vessels and yet not have any perceptible sign of bleeding from the external wound or wounds; sometimes a large amount of blood escapes into the subcutaneous tissue without gaining exit, but these cases rarely die at once from loss of blood. Again, the larger trunks of the neck or limbs are sometimes cut through and the animal succumbs before the surgeon has time to prevent the animal bleeding to death; this is especially true in the case of a nervous animal, rendered more so by the accident, so that it is impossible to attend the wound until the animal is secured in some way, and dies whilst being placed in a convenient position. Pain is a result of injury to the nerve trunks and fibres, and the degree depends upon the extent of damage done by the missive. If a large nerve trunk has been divided, the parts which receive sensation from that portion of the nerve which is divided are more or less numbed, and after the first sharp pains due to cutting of the nerves, the part struck and immediate vicinity lose sensation, thus deadening the pain. When there is much laceration, as is often the case when the wound is received from close range, there are great possibilities of septic infection from mangled tissue. The most painful wounds are those in which bones become fractured and the fragments are driven and press against nerve trunks. This is also the case when foreign bodies act in the same manner. The pain caused by a clean-cut wound from a small calibre modern bullet is comparatively insignificant, un-

less as in instances mentioned above. Shock is always apparent, the animal trembles, pulse becomes small and fast, cold perspiration bedews the body and there is extreme nervousness. Loss of blood will cause shock; in some instances the shock received from a bullet, especially of the old type and at short range, although no vital spot is injured, is sufficient to cause death. Hæmorrhage from lacerated wounds is never alarming unless some large trunk has been severed. When a large trunk has been punctured by a modern small-bore bullet, it leaves two shreds joining the ends of the vessels, which prevent retraction of the cut extremities, and profuse hæmorrhage is the result. Wounds of the brain, spinal cord, heart and the larger internal vessels are rapidly fatal. Piercing the lungs or abdomen, provided no large trunks have been severed, is not rapidly fatal or of necessity fatal at all.

TREATMENT OF GUNSHOT WOUNDS.

All that is necessary with simple wounds where the bullet has passed out and no signs present of a foreign body having gained entrance, is to disinfect the skin at and around the wounds of entrance and exit and occlude the openings by means of dry, sterile absorbent dressing, which should be kept in place if possible by bandages, or some other appliance that will answer the purpose. Complete rest and quietude is imperative, and a nice light diet. Do not probe or interfere with the wound under any consideration; it offers an increased risk of contamination. As an example of the evils of probing is the following:

I.—A horse belonging to troop "K" of my regiment received a wound through the fleshy part of the thigh from a .38 calibre Colt's revolver. It was treated by thoroughly cleansing the wounds and their vicinity with a weak sublimate solution, and pads of oakum were applied and held in place by bandages and leather straps; as the animal was suffering from slight shock at the time, immediately after the wound was received a dose of aromatic spirits of ammonia was given. With the exception of a slight swelling surrounding the wound, there

was nothing to show that the animal had been wounded, the temperature, pulse and appetite remaining normal, and was returned to duty three weeks after injury.

II.—A horse belonging to troop "I" of my regiment, received a wound through the lower third of the muscles of the arm from a Remington ball; at that particular time the wound was plugged with a clean gauze bandage and sent to the rear, where unfortunately the wound was probed (for what reason I cannot imagine), and the animal is still (six months after) on sick report at my hospital, having suffered continually from successive abscess formation, the result most probably from septic infection received from instruments at the first dressing, as it is next to impossible with the appliances which are provided for veterinarians, to keep probes and other instruments clean in the field.

In my experience probing has always been followed by bad results, and the less a clean cut gunshot wound is molested, even if the bullet is still in, the better.

There are several horses in the 1st Cavalry carrying bullets in wounds that have healed without any complications and are doing regular duty. Of course this statement applies to uncomplicated wounds, but even simple wounds, when it is suspected that they have been caused by spherical balls, should be examined for foreign bodies. In those wounds where the larger or essential bones have been fractured, it is advisable to destroy the animal; the best and most humane method that I have found after a good many experiments, is to shoot. A bullet from a .38 calibre Colts is large enough; hold the end of the barrel close to the centre of the parietal, so that it points towards the base of the brain; with the left hand steady the animal's head by grasping the halter. Death is always instantaneous, there rarely being a movement of the limbs after falling.

When wounds are complicated by splinters of bone, or if there is good reason to believe that a foreign body other than the bullet has entered, then explore. Previous to the examination the hands should be thoroughly washed with soap and wa-

ter (warm water if practicable), then rinsed in a solution of carbolic acid 1-20. The instruments should be sterilized. Cleanse the wound and skin immediately surrounding it. If possible use the fingers; this is the best method of determining the extent of damage and the situation of splinters, or other foreign bodies, and the extent of fracture if the bone has been broken. To do this the holes made by the bullet if of a small bore must be enlarged with the knife. There are various instruments made for the detection of bullets; none answer the purpose for the veterinarian better than the probe with a rough porcelain point, except, perhaps, some form of one of the many electric bullet detectors, which is unobtainable at present by the army veterinarian. They are all made on much the same principle, and consist of a probe composed of some insulating material, containing two conducting wires, the points of which can be made to protrude at the end of the probe, but are separated from each other by a short interval about one-sixteenth of an inch; the conducting wires are connected with a small battery, with a bell or galvanometer; the contact of both wires against a metal, as a bullet, completes the circuit, which is indicated by the ringing of the bell, or movement of the galvanometer needle. The porcelain-pointed probe, when it comes in contact with the bullet, receives a mark from the lead; then there are the probe nippers so constructed as to bite off a piece of the bullet. Of course, either of these are useless as regards the steel jacketed missile, so that it is necessary in many cases to depend entirely upon the sense of touch. Having located the bullet, splinters or foreign bodies, the next step is to remove them, which is usually done in the case of larger bodies with the bullet forceps.

The bullet forceps supplied to army veterinarians are single hooked tooth forceps and useless except the ball is very superficially situated. Splinter forceps are useful for grabbing the hard-coated bullets and pieces of bone and wood; there are many varieties of bullet forceps, those made after the style of the Vulsellum are very useful; the French army bullet forceps are suitable for the removal of modern small arm projectiles, they are

shaped something after the old midwifery hinge forceps, somewhat resembling splinter forceps, only stronger and heavier.

The entrance wound will always have to be enlarged for the thorough securing and extraction of the bullet. The handling of the forceps requires gentleness and firmness, and care must be taken not to open the forceps before the bullet is reached for fear of squeezing and injuring the already lacerated tissues. If after the bullet is grasped, it seems that undue force is necessary for its removal, very probably some tissues are enclosed with the bullet on the forceps, or it may be that the bullet is deformed and entangled on the softer structures. Very often it is advisable to desist from attempting the removal of the bullet, which will become loosened after a time and can be removed without difficulty. The other foreign bodies should be removed and the wound thoroughly irrigated with an antiseptic solution of corrosive sublimate, creoline or other germicide. Large vessels that are broken should be tied; if this is impossible, and there is much hæmorrhage, the wound must be plugged with oakum or other suitable material, but only plug when absolutely necessary.

The skin wound should be covered with a dry absorbent of gauze or wool, and the sides approximated being gently compressed by a well adjusted bandage, always providing suitable drainage for cases of complicated shot wounds. Drainage is not necessary for well dressed simple wounds.

Often in the field all that can be done is to ligature broken vessels, or plug the wounds and apply dry dressings until a favorable opportunity presents itself and suitable appliances are at hand. Quite a large number of wounds that have dry dressings applied to them in the field, heal readily without further complications, being dressed in the usual way after animal has reached the proper hospital.

Secondary hæmorrhage should be treated with the actual cautery, or if practicable to ligature the main vessels from which the blood comes by pressure.

After suppuration has become established, the wound must

be laid open as far as practicable and thoroughly flushed out with antiseptics and suitable drainage established. General condition of patient must be attended to. Hygiene, good food and whatever medication is indicated. Bolo wounds may be either clean cut or punctured. Clean cut wounds should be treated by irrigation, ligaturing the vessels, and drainage; a horse is not as liable to suffer from the intense shock observed from gunshot injuries, but if similar symptoms present themselves, they must be met in the same way. Very often it is advisable to suture wounds caused by sharp-edged weapons. Punctures and wounds from arrows are more troublesome to treat. Of fourteen horses that received punctured wounds from native weapons during the same week, I tried various methods of treatment, but finally was obliged to open them all freely and provide for drainage through the tissues, from their bottom downwards, which was done by tape setons; in all the cases the swelling was excessive and gradually spread, perhaps due to some poison contained on the weapons; it was many weeks before recovery took place. In some cases the wound was upon the hip and drainage was established downward through the inside flank. They all tended to become worse until free exit was made below the bottom of the wound for the pus. Sometimes a wound from a stab does well and recovers even when upon the back from dry dressings, only provided it is kept clean. Punctured wounds, whether produced by bayonet, sword, spear or arrow, require special care. If there is much hæmorrhage, the puncture must be enlarged, and vessels secured, clots turned out, thorough irrigation with antiseptic solutions, finally packing with gauze, preferably iodoform, and dusting the outside with antiseptic powder. All wounds should be covered to prevent possible infection from flies and other agencies; this is especially true of wounds in the tropics.

Owing to an outbreak of rabies in Rhodesia the native commissioner met the native chiefs, and explained the disease to them. They promised to destroy all dogs except favorites. This means the destruction of from 60,000 to 80,000 dogs. The government will destroy the hyenas.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

SUCCESS IN THE TREATMENT OF PARTURIENT PARESIS.

By W. N. BABCOCK, V. S., Scott, N. Y.

Upon reading the article under heading "Reports of Cases," by John J. Repp, in September issue of REVIEW, of "Parturient Paralysis Prior to Parturition," and the fatal termination, I am inclined to record my experience in a very similar case, and the recovery.

Subject.—A pure bred Jersey cow, seven years old, very fleshy, heavy milker, and expected to calve for a day or two. She was on pasture, but for a few previous days had been kept in stable out of sun. On Aug. 20th they commenced milking her. On the 21st found her down and unable to rise. The owner at once sent for me, and I arrived about 8 o'clock A. M.

Observations and Treatment.—The cow was lying on her sternum and all her efforts to rise were unsuccessful. Temperature 103⅖, pulse 70, respirations 20, with stertorous breathing; muzzle dry, udder pliable; no milk in udder; some curve of neck; consciousness and sensation impaired; often throwing her head on floor.

Never having a case of parturient paralysis before parturition, I made examination for that, but found the os not yet begun to dilate or proper presentation of fœtus. I attempted to give medicine for dilatation and found throat paralyzed. I then made a diagnosis of parturient paralysis. I prepared my medicine after the formula of Veterinarian J. C. Callander, in the February number of your valuable journal, and every two hours between the doses gave Buntin Drug Co.'s hypodermic tablets of ergotin, for dilatation of os. Gave Schmidt's treatment at 10 A. M. and 6 P. M. At 9 P. M. made examination and found system relaxed, but fœtus lying upon its back. After some manual labor, succeeded in making delivery; then changed ergotin for strychnine sulphate, ½ gr., every four hours; used catheter and emptied rectum; had an attendant watch with her through night, turning her once.

At 5 A. M. found patient brighter; would take a swallow of water, and show appearances of consciousness. Gave the third

and last dose of iodide treatment. At 1 P. M. visited patient, and with a little slap with my hand on her rump and a word to "get up," she sprang to her feet, but was so feeble and weak she could only stand a few moments. Convalescence steadily followed, the after-treatment being four doses daily of strychnine tinct., ʒi; taraxicum tinct., ʒiv.

I treat from eight to ten cases in the year, and have not lost my first case since I have used Veterinarian J. C. Callander's formula, with the added carbolic acid and glycerine. I disinfect the udder with zenoleum, which I find a superior article, and for all the other medicines used, would recommend Buntin Drug Co.'s soluble hypodermic tablets.

I can join with brother Callander in saying: "It is a pleasure rather than a dreaded task to be called to treat the cases of parturient paresis."

MORE GOOD RESULTS FROM GLYCO-HEROIN (SMITH).

By A. JASME, V. S., Savannah, Ga.

My interest in articles published in the REVIEW relating to the treatment of coughs with glyco-heroin (Smith), led me to try it in my practice. For the benefit of your readers, I beg to submit these few cases:

I. Small polar dog, shipped in boat from New York, arrived twelve days ago; has laryngitis; cough very distressing; does not eat. Glyco-heroin (Smith), and glycerine, *āā* ʒi; teaspoonful four times a day. Cured in four days.

II. Mule, double pneumonia, cough very painful, and almost continual; no chance to recover; taken sick three or four days before sent to hospital. Gave glyco-heroin every two hours (one ounce). On next day, cough nearly gone; patient ate some; died at the end of the third day, but the beneficial action of glyco-heroin was clearly manifested.

III. Setter dog, distemper, breathing very difficult, nasal discharge, thick and closing nostrils. Improvement in breathing and character of nasal discharge began next day. Dose given, teaspoonful every four hours.

IV. Horse, broken wind. Glyco-heroin (Smith), Oii; daily dose of four ounces improved cough; ordered again Oii, and gave daily 8 ounces. Although some improvement was noticeable, the owner did not desire to continue any longer.

V. Mare, four years old, distemper; sent to hospital in bad condition; cough and breathing most distressing; a case likely

to require tracheotomy, unless promptly relieved. Gave two ounces at 9 P. M., 12 and 4 A. M.; continued during the day one ounce every two hours; improvement was rapid and on next day gave it in two-ounce doses in wet bran.

VI. Horse, property of an M. D.; pharyngitis of three days standing; nasal discharge. One ounce every three hours was prescribed, and one pound completed the cure.

I have given glyco-heroin (Smith) in other cases in the dog, and do believe it valuable in veterinary practice. It is easily given to the horse either by means of a syringe, or in the food. I find half to one teaspoonful every three hours sufficient for ordinary sized dogs, and in the several cases under my observation have always found improvement on the next day.

DEATH OF NOAH CRESSY.—This well-known veterinary surgeon and editor of the *Connecticut Farmer*, died suddenly at his home in Hartford, Aug. 31. Dr. Cressy had been in poor health for about two years, with kidney trouble, and an operation, which gave him temporary relief, had been recently performed. He was 63 years old. He taught school when a young man, then took a course in the Harvard scientific departments. and graduated as a physician at the Pittsfield Medical College, After practicing 12 years he became lecturer on bone diseases at Wesleyan College, Middletown. He became interested in veterinary medicine, studying that specialty on his own account, and did some work for the State government, finally being appointed State veterinarian. He taught veterinary science at Amherst Agricultural College. After remaining in Amherst two years he went to Montreal, where he completed his study of veterinary medicine. After lecturing at various points, he went to Hartford and opened a veterinary drug store, which he continued to conduct until he bought the *Farmer*, after which he practiced but little.

THE NEW BOARD OF VETERINARY MEDICAL EXAMINERS OF MICHIGAN, which assumed office Aug. 1, is as follows: Dr. H. M. Gohn, of St. Johns; Dr. H. F. Palmer, of Detroit; and Dr. H. C. Wann, of Claire View. This board can be relied upon to represent the profession of Michigan, which has never been the case since the creation of an examining board.

DRS. D. C. BURNETT and T. B. Pote, of the inspection division of the Bureau of Animal Industry in St. Louis, attended the evening session of the Missouri State Veterinary Association, Aug. 18.

EXTRACTS FROM EXCHANGES.

FRENCH REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

STRANGULATION OF THE SMALL INTESTINE BY AN ABDOMINAL LIPOMA [*G. Petit*].—Ordinarily the tumor develops on the sub-lumbar region, under the peritoneal serous membrane; then, when its weight has reached a certain degree, it drops downwards in the abdominal cavity, hanging by a peritoneal fold, which is liable to twist round the intestine and give rise to a fatal strangulation. Again, the peduncle may give away and then the lipoma, being free, undergoes in the abdominal cavity changes which end in calcification. In the case recorded by the author, the lipoma weighed 155 grammes, and was as big as a man's fist. It has the shape of a heart, rounded, and gives, on its notched base, attachment to a narrow band, strong, about 10 centimeters long, and is inserted on the iliac portion of the intestine. There is no rupture of the mesentery, and it is probable that the strangulation has occurred by a sudden movement in which the tumor was thrown round the origin of the ileum, which it surrounds like a necktie, in passing the extremity of the intestinal loop, and being prevented from resuming its former position.—(*Bullet. de la Soc. Cent.*)

CANCROID OF THE CLITORIS [*M. Naudin*].—The mare subject in question has at the lower part of the vulva, a growth which since it has made its appearance, about a year ago, has enlarged and is now spreading on the lips of the vulvar opening. At present, the vulva is covered by a mass, big as two fists, slightly trilobulated and attached by a short peduncle, which permits it to hang down on the perineum. The peduncle and the surrounding parts of the vulva and perineum are of scirrhous consistency. It spreads gradually and expands irregularly, forming an irregular, bosselated, granulous mass, giving the tumor the aspect of a cauliflower or of a large papilloma. It is covered with numerous ulcerations, secreting sanious pus of bad odor and quite abundant, which soils the perineum and the internal face of the legs. The lymphatic glands of the sub-lumbar region are hypertrophied and hard. The tumor was excised with bistoury and hemostasis made with the thermo-cautery. The growth weighed 400 grammes. Examined under

the microscope its nature was made out—cancroid; it resembled similar growths which are observed on the head of the penis of the horse, although they are less frequent in mares. This last is probably the largest on record.—(*Rec. de M. Vet.*)

VENTRAL HERNIA—SUTURE OF THE RING—RECOVERY [*Prof. Peuch*].—Filly, twenty-two months old, received a blow with a horn in the right hypochondriac region; a ventral hernia follows, which is soon as big as the fist. The animal was treated for six months by an empiric, who resorted to bandages without result. At last brought to the clinic of the author, she was cast, chloroformed and operated upon. The hernia first reduced, an incision eight centimeters long is made through the skin, the sac is opened, the edges of the hernial ring are brought together with silk suture. Only one stitch was applied. The skin was closed by the application of a curved clasp. There was no complication, but the recovery was incomplete, as the difficulty of applying more than one stitch on the hernial ring prevented its complete occlusion.—(*Journ. de Zoötechnie.*)

NECROSING AND INFECTING PUNCTURED WOUNDS OF THE FOOT [*Prof. Cadéac*].—Aside from all considerations relating to the seat, the severity of a penetrating wound of the foot is given by the rectal temperature. Its elevation is in proportion to the extent and intensity of the infection produced by the wound. At times the puncturing nail acts as a necrosing traumatism, aseptic or scarcely suppurating, at others on the contrary it is the inoculating instrument of pyogenic and septic germs. A temperature reaching 39° or passing it, indicates deep and serious infection. Apyretic street-nail wounds justify local antiseptics and recover quickly. Wounds with slight hyperthermia are slightly suppurating; their recovery is easily obtained by ordinary means; they never assume great severity; with them the inflammation remains localized and gives rise to no secondary complications; those wounds are necrosing. But there are wounds which from the start show exceptional severity, with elevated hyperthermia and general symptoms telling of a general infection. Then, early and complete surgical interference fails in arresting the complications of septico-pyohæmia, which are likely to occur and often end fatally. These wounds are the infecting ones; they are specially dangerous and for the different prognoses which belong to them demand to be properly diagnosed.—(*Journ. de Zoötech.*)

RESISTANCE OF THE HORSE TO VIOLENT TRAUMATISMS [*M. Brocg. Rousseau*].—These two cases are published by the

author to show the great resistance that horses can show against severe injuries. The first case is that of a mare which has been injured and received back of the left shoulder a wound with irregular, ragged borders. It was said that the animal in running away had come in contact with the shaft of another wagon. The general aspect of the mare suggests the idea of an internal hæmorrhage going on. The animal dies in the evening at 10 o'clock. At the post-mortem the 8th and 9th ribs are found fractured, the left lung run through, as well as the diaphragm; the stomach was perforated and with considerable of intestines had entered the thorax. Injured at about 8 A. M., and notwithstanding all her injuries, the mare was able to walk four kilometers and lived for twelve hours. The second case is that of another mare, also run into and thrown down by another wagon. She has two wounds, one on the left hip, the other on the right rump. It is said that the shaft of the wagon has run the mare right through. Rectal and vaginal examination shows that indeed the shaft has entered the left flank and come out at the right. With this condition the mare was walked home, a long distance, with no difficulty in her movements, and did not die for twelve hours afterward.—(*Rec. de Med. Vet.*)

QUADRUPLE GESTATION IN A COW [*M. H. Delaunay*].—A six-year-old cow has had three calves in three years, but her last pregnancy was more successful. Covered by a prize bull, pregnancy went on well until the eighth month, when, while eating well and plenty, she was observed losing flesh more than usual. Towards the last ten days of her pregnancy she refused all food and took only molassed water. At last she showed signs that her time was coming. Towards twelve o'clock one day she had one calf, which was followed after every half hour by another, until she had four. The whole delivery lasted one and a half hours. The four calves were all female, living, well formed, and weighed in the average 19 kil. 500. The cow did not seem disturbed by her condition. One of the calves was killed in the evening, as it seemed quite weak. The others went on well.—(*Rec. de Med. Vet.*)

ITALIAN REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

BOVINE CISTICERCOSIS [*Dr. Garibaldo Lisi*].—After referring to a long article published recently in the *Moderno Zoöia-*

tro, the author, who is attached as director of the market of Carrara, records four cases of unusual parasitic infection which came under his observation. In the first the parasites were found in every part of the body. The muscles of the head were much involved. The tongue contained fifteen cysts, four of which were calcified. The epicardium, endocardium and miocardium were filled with them, some living, others calcified. The lungs, liver, spleen, kidneys, eyes, brain and the lymphatic glands were not free from them. The muscular coat of the stomach contained two cysts. In the second, the infection was not less, but the muscular tissue of the heart, those of the head and tongue principally. Some ten of the parasites were found in the lungs, two in the walls of the rumen, four in the muscular coat of the œsophagus. They were also found in the liver, spleen, the spinal cord. The diaphragm was covered with them on its whole extent; two were found on the peritoneum. In the third the cysticerci were found in great numbers in the head and neck, the rumen, the œsophagus, the diaphragm, the psoas muscles, as well as in the thoracic and abdominal organs. The fourth was less diseased. Two cysts only were found over the epicardium, one in the tongue and one in the external masseter. —(*Clinica Veterinaria.*)

AMAUROSIS FROM TUBERCULOSIS [*Dr. Funragalli Arnaldo*].—The owner of a seven-year-old steer had remarked that since some time this animal had shown some difficulty of sight, and that finally he seemed to be entirely blind of the right eye. In being approached he appeared ambragious, and pushed to a corner of the yard, knocked himself against a fence. On examination, the pupil is found enormously dilated and remaining without contraction when brought from strong light to obscurity. The ophthalmoscope revealed a partial laceration of the retina. Treatment being unnecessary, the animal was killed. At the post-mortem diffused tuberculosis of the lungs and liver were exposed, and finally by careful dissection of the head the cause of the amaurosis was made out, both nerves being examined minutely. The left nerve presented nothing abnormal. But in the right, at a small distance from the entrance of the nerve into the eye, there was a small enlargement, which was carefully removed. The portion of the nerve forward of this was atrophied and degenerated, while that posterior to the origin of the nerve was normal. Towards the ring of exit of the nerve there were observed small tubercles, partly calcified and involved in the cellular tissue which forms a great portion

of the ring. The retina was degenerated and partly lacerated. The bacillus of tuberculosis was found in the small tubercles by microscopic examination and their inoculation to guinea pigs developed the disease.—(*Clinica Veterinaria.*)

SEROUS CYST OF THE LEFT LIP OF THE VULVA IN A COW [*Dr. Alfredo Miniardi*].—After passing a brief review of the various modes of treatment of serous cysts, and short remarks on their advantages and objections, the author, accepting the extirpation of the walls of the cyst as the most satisfactory, alludes to the method of puncture followed by injection of irritating fluids in a favorable way and gives it precedence over extirpation, which is kept as the last resource, and records the following case to support his opinion. A six-year cow had for five months had a tumor on the left side of the vulva. It has grown to somewhat troublesome dimensions and interferes with micturation. Otherwise the animal seems in perfect health. The tumor is large, painless and fluctuating. The introduction of the hand through the genital organs is difficult, but by pressing from inwards outwards with the palm of the hand one can judge pretty well of its size—about that of two fists. Explorative puncture revealed its nature. The cavity is then emptied with a large syringe of Pravay and an injection of a cold solution *de fenolo* at 5 per cent. introduced. The cavity distended was well massaged and the contents again removed by aspiration. The after treatment consisted in slight frictions of tincture of iodine. Quite a serious inflammatory process followed, but the swelling gradually diminished and recovery was completed in a few days later.—(*Clinica Veterinaria.*)

NOTES OF PATHOLOGICAL ANATOMY [*Dr. Garibaldo Lisi*]. —*A Guinea-pig which Recovers from Rabies.*—June 9, 1899, with the brain of a rabid guinea-pig, immersed for six days in neutral glycerine, another pig was injected in the anterior chamber of the right eye. September 20, the animal presented light symptoms of paralysis, which had so increased in twenty-four hours that he could not move. On the 22d, however, he seemed to be somewhat better, especially on the hind legs, which have partly recuperated their power of motion. On the 23d, the improvement has continued and the animal, much better, is entirely recovered by the 25th. *Cerebral Tumor in a Cow.*—The owner of the animal reported that nothing abnormal could be found with his cow. She ate and ruminated well and was perfectly quiet while in her stall, but as soon as she was brought out, she would rush forward, careless of any obstacle in front of

her. To convince himself of this, she was brought out, when she started running ahead until she fell down and was secured. Although *cœnurus cerebralis* was suspected, the examination was carried further and the symptoms observed justified a diagnosis of tuberculosis, tubercules being found in the lungs, pericardium and glands of the thorax. On looking at the brain, on the pons varolii, a tumor as big as a hazel-nut was found, which had a sarcomatous aspect. It was examined microscopically, which revealed it made of numerous giant cells with various nuclei isolated in some places and in others united in the centre.—(*Il Nuovo Ercolani.*)

A CASE OF GUTTUROMICOSIS IN THE HORSE [*By Prof. E. Nazzanti*].—Under the name of gutturomycosis Rivolta has designated an ulcerative affection of the guttural pouches, due to a fungi which he has named *gutturomyces equi.* He has observed this affection in two horses. Bassi in 1881 found it in one horse and in one mule. Nazzanti has observed another which presented the same symptoms and the same lesions. A six-year-old horse is suffering with dysphagia, no fever, general condition bad, and much dullness. He has stomatitis, and much heat of the left parotid region is present. The treatment prescribed remains without result, and the third day of the observation he dies by severe dyspnœa. At the post-mortem the left lung was found to be the seat of a hæmorrhagic congestion, and the left guttural pouch that of characteristic lesions. The mucous membrane was tumefied, dark in color, almost black and covered with muco-pus. In the bottom of the guttural pouch, near the stylo-condyloid space, there were three patches with irregular borders, two having the size of a ten-cent piece, the third as large as a big penny. These patches, slightly elevated and with undulated surface, in some places rather loose, had a diphtheric aspect and were of a greyish white color. In them, besides ordinary bacterias and inflammatory products, there was found the mycelium and the spores of a fungus that the author compares to the *aspergillus fumigatus.* Considering the process of the disease, he admits that it has started by an attack of aspergillas stomatitis, then under the influence of a severe local treatment, it has left the buccal cavity to reach by continuity the guttural pouch. The author also believes that the dysphagia cannot be attributed to the irritation of the ninth pair, which was found intact, but that it is due to a mechanicalinfluence belonging to the soreness caused by the inflammation.—(*Il Veterinaria di Campagna.*)

OBITUARY.

RUDOLF LUDWIG KARL VIRCHOW.

At Berlin, Sept. 5, this world-famous bacteriologist, pathologist, and statesman passed away, his vital powers having been gradually failing since a serious illness in a street-car accident. His loss will be profoundly felt wherever medical science is cultivated, for, as the New York *Medical Journal* aptly puts it, "of all members of the medical profession of whom persons now living can have any personal remembrance, he was beyond peradventure the foremost, whether we regard the profundity of his researches, the lucidity of his expositions, or the diversity of his achievements in science."

Virchow was born in Pomerania, in 1821. Hardly had he received his medical degree when, as Froriep's assistant in Berlin, he entered upon pathological investigations of such brilliancy that very speedily, in 1847, he found himself so highly appreciated by his professional brethren as to be able, in conjunction with Reinhardt, to establish a new journal, the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin.* Reinhardt died in 1853, leaving Virchow to conduct the new journal alone, which he did up to the time of his death. Of late years it has been customary to speak of it as Virchow's *Archiv.* It has always occupied in our periodical literature a singularly high place in the appreciation of the medical world; a set of it is almost a library in itself. That one man should have been its editor for so many years—more than half a century—and kept it unswervingly true to the labor of achieving real progress in medicine, never misled by false ideas, however alluring, never according to the plausible the weight that properly attaches only to the tried and proved, is a monument to the severity tempered with tolerance, with which Virchow rated men and their doings.

His early career was checkered by the part he played in the political disturbances of 1848. In consequence of his having proclaimed himself a Democrat, he was forced from his position in Berlin and betook himself to Würzburg, where he was made a professor. It was not until several years later, in 1856, that he was recalled to Berlin, and even then it was only the determined interposition of various medical organizations that led to his recall. He was then made professor of pathology in the University of Berlin, and it was not long before he made himself felt

in politics in spite of his previous disfavor with the government. He was one of the founders of the Progressive party, and for years he was an active participant in the deliberations of the Landtag and the Reichstag, besides contributing materially toward bringing about municipal improvements in Berlin.

Though he did not often contribute to his own journal, Virchow was a copious writer. Doubtless his most important work was *Die Cellularpathologie*, which appeared in 1858. Chance's English translation came out in 1860, and Picard's French version in 1861. The theory enunciated in this great work was the nucleus around which the substantial progress made in pathology during the second half of the nineteenth century crystalized. A less striking work, but one of enduring value, was his *Die krankhaften Geschwülste*, published in 1863–'67.

Virchow's industry was no less remarkable than his versitility, whether investigating leprosy for the Norwegian government, studying an epidemic of typhus in Upper Silesia, or subjecting Schliemann's discoveries to analysis, he was always at work. Probably it was the very diversity of his pursuits that preserved his intellect unimpaired to the last. He was seventy-one years old when his *Crania ethnica americana* appeared, and even later than that, in his *Archiv*, he gave a masterly exposition of his antagonism to the new spelling that, according to his view of the matter, the schoolmasters had sought to impose upon the German people.

But it was not in criticism or investigation alone that Virchow was strong. His oral teaching, continued for so many years, gave to many a man the mental cast that enabled him to work at his best. The master works through his pupils as well as in his own acts, and Virchow had been the master of a multitude of those who afterward contributed notably to the increase of our knowledge. His personality, too, counted for much, as anybody who ever came face to face with him will testify. Indeed, medicine has lost a giant.

JOHN M. PARKER, D. V. S.

Word reaches us through Dr. J. F. Winchester that this well-known veterinarian died in South Africa on Aug. 21, but as yet we have not heard particulars as to the cause or duration of illness. In the September REVIEW we published a long and most interesting article from his pen upon the subject of "Rin-

derpest," which was in the nature of a compilation of the history of the efforts made to immunize cattle against the great scourge, and we had expected that the doctor's great energy and studious mind would have given us much more along this line. But it was willed by a higher power that he should be cut off in the zenith of his manhood and professional ability. He was just thirty-nine years old at the time of his death, but he had crowded much into his short life. He was a Scotchman by birth, but came to America when quite young, had become a naturalized citizen of the United States, and graduated from McGill University somewhere in the eighties. He located at Haverhill, Mass., where he married, and engaged in private practice. As his first child was born its mother succumbed to the ordeal, and he was left to mourn for his young wife, which he did most sincerely, never marrying again. In 1896 he became a member of the Massachusetts Cattle Commission, serving as its Secretary until the number of Commissioners was reduced to three. Some three years ago he accepted a position with the British Army in South Africa, being connected with the Remount Depot at Worcester, Cape Colony, where we presume he died.

He was ex-President of the Massachusetts Veterinary Association, a member of the A. V. M. A., and a frequent contributor to veterinary literature through the professional journals and otherwise.

DR. COLEMAN NOCKOLDS, who is contributing so many valuable original articles on diseases and conditions in the Philippines for the REVIEW, says in a recent letter: "At the present time (June 27) there are three epidemics raging in Batangas Province, Luzon, P. I.: Cholera among Americans and natives (people), rinderpest among cattle and pigs, tetanus among American and native horses."

VETERINARIAN WITH HYDROPHOBIA SPARES HIS FAMILY. —*Detroit, Mich., Sept. 25.*—Dr. George E. Metcalf, a well-known veterinary surgeon, was buried yesterday. While treating a dog four months ago the animal bit one thumb. Last Friday he became ill, and symptoms developed which left no doubt of the nature of the disease. Dr. Metcalf sent for his brother, and said to him: "There is no hope for me. All I wish is that you will take me away that my family may be spared the horrible sight, and that you stand by me until death relieves me." His brother sent him to Harper Hospital, and was at his bedside until the end came on Sunday, soon after he had lost consciousness and gone mad.—(*New York World, Sept. 25.*)

"THE OLD OAKEN BUCKET"—MODERNIZED.

By Dr. J. C. BAYLES, Former President New York City Board of Health; Read before the Fellows of the Academy of Medicine.

With what anguish of mind I remember my childhood,
Recalled in the light of a knowledge since gained,
The malarious farm, the wet fungus-grown wildwood,
The chills then contracted that since have remained;
The scum-covered duck-pond, the pig-sty close by it,
The ditch where the sour-smelling house drainage fell,
The damp, shaded dwelling, the foul barnyard by it—
But worse than all else was that terrible well.
And the old oaken bucket, the mold-crusted bucket,
The moss covered bucket that hung in the well.

Just think of it! Moss on the vessel that lifted
The water I drank in the days called to mind;
Ere I knew what professors and scientists gifted
In the water of wells by analysis find;
The rotten wood fiber, the oxid of iron,
The algae, the frog of unusual size,
The waters impure as the verses of Byron,
Are things I remember with tears in my eyes.

And to tell the sad truth—though I shudder to think of it—
I considered that water uncommonly dear,
And often at noon, when I went there to drink it,
I enjoyed it as much as I now enjoy beer.
How ardent I seized it with hands that were grimy,
And quick to the mud-covered bottom it fell,
Then reeking with nitrates and nitrites, and slimy
With matter organic it rose from the well.

Oh, had I but realized in time to avoid them—
The dangers that lurked in that pestilent draft—
I'd have tested for organic germs and destroyed them—
With potassic pumanganate ere I had quaffed.
Or perchance I'd have boiled it, and afterward strained it
Through filters of charcoal and gravel combined;
Or, after distilling, condensed and regained it
In palatable form, with its filth left behind.

How little I knew of the enteric fever
Which lurked in the water I ventured to drink,
But since I've become a devoted believer
In the teachings of science I shudder to think.
And now, far removed from the scenes I'm describing,
The story of warning to others I'll tell,
And memory reverts to my youthful imbibing
As I gaze at the thought of that horrible well,
And the old oaken bucket, the fungus-grown bucket—
In fact, the slop bucket—that hung in the well.

—*Engineering News.*

SOCIETY MEETINGS.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

The thirty-ninth annual meeting convened in the Assembly Hall of the West Hotel, Minneapolis, Minn., at 2 P. M., on Tuesday, Sept. 2, 1902, the hour assigned for the opening exercises (10 A. M.) having been postponed on account of the non-arrival of the "special veterinary train" from Chicago, with about 90 members, visitors and ladies, occasioned by the wrecking of a cattle train, which caused the "special" to be held up until the tracks were cleared. At the latter hour the large room was filled to its utmost capacity, all available standing room being occupied, the last two rows of chairs being occupied by about fifty ladies. President Winchester gave a sharp rap of his gavel, and declared the thirty-ninth annual meeting of the A. V. M. A. in session. After remarking upon the honor he felt in having the privilege of opening the largest veterinary convention ever held in America, and probably in the world, he introduced Mr. W. G. Nye, Chairman of the Entertainment Committee of the Commercial Club of the City of Minneapolis, who welcomed the Association to the city, performing this function in such a hearty manner that none could fail to feel that they were indeed welcome guests, for he said that he wanted them to feel that every zephyr which blew and every bird which sang, bade us accept the freedom of the city, an honor which is not extended haphazard, and really very seldom in recent years has this been done, although the city is the meeting place of many conventions. Further, he said the Commercial Club, composed of 1000 of the best business and professional men of Minneapolis, would keep its latch-string always hanging on the outside for members of the A. V. M. A., and he hoped they would pull it as frequently as they wished. He paid a splendid tribute to the local members of the veterinary profession, and showed by his intelligent discussion of veterinary topics that he is a student of current events, and conversant with the progress being made by our science.

Following Mr. Nye's splendid address, President Winchester called upon Dr. Roscoe R. Bell, of New York, for a response on behalf of the Association, which was done in a short speech, couched in appropriate words.

Dr. J. F. Winchester, of Lawrence, Mass., President of the Association, then delivered the following address:

PRESIDENT WINCHESTER'S ADDRESS.

Gentlemen:—It is fitting that I should first express to you my deep sense of appreciation of the compliment and honor you conferred upon me, when by unanimous vote you elected me to preside over this body. Fully realizing that it is the highest honor that can be bestowed upon an individual member, I assure you that I shall do my best to fulfill the duties of my high office as befits one who has the welfare of the profession very closely at heart.

The present and future success of this Association depends upon the members individually and collectively. We are numerically the largest association of the kind in the world, and it becomes the duty of the members to do their utmost to make the American Veterinary Medical Association the most influential in work and wisdom.

It is now two score years since the first gathering of veterinarians was held on this continent. That space of time marks an epoch in the life of man when he is ordinarily at the zenith of vigor of mind and body. It is not so with this Association, for its influence will steadily increase, growing grander and more glorious as the years pass by. Its prestige to-day is well shown in that the invitation to hold the meeting in this State was the most cordial one ever extended to it.

The veterinarians of Minnesota are to be congratulated upon having the Governor, the State Board of Health, the Mayor of this City and the Commercial Club so much interested in our profession as to extend individually to this organization the right hand of fellowship. In behalf of the American Veterinary Medical Association, I now thank the gentlemen representing the State and City Governments for the courteous treatment that has been offered us.

This Association was organized by about forty veterinarians in 1863, the year following the meeting held in Philadelphia, under the name of the United States Veterinary Medical Association. Since that time the scope of the work has so enlarged that the present name was adopted as indicative of the growth of membership. Through its encouragement and support a veterinary periodical was first published; through its influence the course of study of veterinary medicine in most colleges has been increased to three years, and it is to be hoped that the same influ-

ence will cause the few two-year schools that remain to lengthen their period of instruction. There are to-day thirteen colleges graduating veterinarians eligible to membership in this Association, while only five remain that do not comply with our requirements.

As it is my opinion that the requirements of Article I, Chapter VI of our By-Laws have been instrumental in increasing the period of instruction in many colleges, I offer these suggestions: First, that all alumni from colleges now requiring three years' attendance be eligible for membership in this Association; second, that the graduates from colleges that within two years adopt a three years' course and otherwise comply with our requirements be eligible to membership.

As there are at the present time only five colleges having at least four veterinarians on their teaching staff, that do not require the three years' course of six months' attendance or more, I trust that the day is not far distant when the term for graduation for all colleges will be extended to four years. If it were a fact that all our three-year colleges were insisting on like qualifications for matriculation and graduation, with the anticipation of a four years' course in the near future, the confidence of the public would be gained.

This condition of affairs can be brought about by having the trustees of each college appoint delegates with power to act in the matter. The next step in order would be the selection of men of broad and liberal education, who are specialists in the subjects taught, to constitute the faculties of these schools.

This once accomplished, the requirements for matriculation of students in all the colleges being made equal, the results will be that in the near future all cities will have a veterinary health officer acting with the medical officers of health in controlling and preventing diseases; the public will cease to look upon the veterinarians as mere animal physicians and surgeons and will grant them the privilege of interpreting and administering laws relating to public health. We should use our moral influence to bring this to pass that every graduated veterinarian may sometime have the prestige due him.

The growth of this Association, and interest in it, is due to a great extent to its Secretary. His duties are many and arduous, but how few of us have for once stopped to consider them. On his untiring zeal and his ever anticipating the wants of this organization depends the success of our meetings and the interest taken in them.

In looking over the list of secretaries you will find that, with one exception, our present official has served us the longest, but bear in mind that with that exception from 1880 to 1888 the duties were very slight compared with those of to-day.

During the first years the membership was limited; notices of meetings were given in the REVIEW and the *Journal*, and the proceedings of the meetings were not published as at present. The time occupied was one day in September and March, New York City being usually the mecca in September, and Boston in March. There were but few papers read, the time being principally occupied in changing the By-Laws and discussing contagious pleuro-pneumonia.

Those of us who were members in the early days little thought that such a change would take place in this Association, for, as I have said, it is to-day the largest, numerically, in the world. The work having increased to such dimensions, our Secretary should have under his direction, as State Secretaries, men who are earnest and willing to serve. Before making appointments it would, in my judgment, be desirable to obtain from each man an assurance of his willingness to accept the office and assist in the work which properly belongs to it. Since the duties of the State Secretaries are not defined in our By-Laws, the Secretary should be provided with printed instructions, such as the Executive Committee may recommend, which he may send to the State Secretaries when notifying them of their appointment.

The suggestion has been offered that an effort be made to have the various State associations elect as members only such as are eligible to membership in this body, and then to have these various organizations endeavor to interest their members, that all may become associated with us. I deem this advisable, as in this way our membership would be increased and our influence greatly extended. Should the State associations carry out this suggestion how many new students would the two-year colleges matriculate?

It is now several years since a Prize Committee has been in existence, but I trust that before long we may again see the formation of that committee.

It cannot be said that original work is not being done on this continent. The interesting and valuable papers that are presented, not only at our meetings, but also at State associations, deserve more than a passing notice. Knowing what lit-

erary work our members have done without the hope of pecuniary gain, but simply from the desire to aid their profession, would not a prize offered by the Association serve to stimulate for the future those men who have already aided the Association and profession and at the same time be an incentive to others to interest themselves in such original work? While it is a fact that our profession offers opportunities second to none for the investigator, at the same time are not a great many of us taking conditions for granted that by the acts of nature resolve themselves without our knowledge of the cause?

In order to gain in wisdom and to benefit the country, the name of which we have assumed, what reason can there be why we should neglect to use our influence to induce our members to give to the world the results of their investigations? Let this Association decide on some method so that it may put its stamp of approval upon the work of its members.

You have caused the formation of a Committee on Pharmacopœia, the results of their labor to be the official work of this Association, and your President having made a very careful canvas of the membership to obtain the most eligible men to comprise the committee there is reason to believe that a body has been gotten together that will do its work thoroughly and reflect credit upon the Association.

The proposition that a committee be formed to formulate a standard of soundness of horses is good; in addition, I would suggest that a scale be made by which the excellence of an animal for service may be scored. Ordinarily the services of the veterinarian at exhibitions have been used in regard to soundness only, and his judgment has not been called for when scoring points of excellence.

The attempt to get a special act of incorporation through Congress, which resulted in failure, was made several years ago. It is now time to take up this question again, and if the concensus of opinion does not favor again trying in Washington, it may be well for the Association to apply for incorporation under some State law.

In the past few years the mortality and prevalence of infectious and contagious dermic and zoötic diseases have diminished. The reason for this is that the causes of the various disorders common to man and animal have been investigated and proven. It is well known that the causes of those diseases communicable to man vary in size from micro-organisms to parasites (if you will allow the comparison), and many of the

former do not necessarily belong to the living animal, being found in decaying tissue as well as in storehouses.

Recently the etiology of certain diseases that cause enormous loss in cattle has been demonstrated, and the immunizing of cattle has become a source of wealth to the nation. In this country, so far as I know, those insects that fly at night have not as yet been proven to convey diseases from one *animal* to another, though they do from man to man; nevertheless, it is known that flies become an active means of contagion among animals.

Tuberculosis, so well known to us all, and about which so much controversy has arisen, illustrates in my mind the best instance of a malady where hygiene and sanitation are the important factors in its prevention and treatment.

What seems to be the future work of the veterinarian is the *prevention* of contagious and infectious diseases. As in the past, the success that has been attained has been due in a large measure to sanitation; so must we look to that for future success. I would recommend that the Committee on Resolutions draw up an article on the practical value of hygiene. Such a resolution will undoubtedly receive the unqualified approval of the press.

In several of the States important laws have recently been passed which should greatly benefit our profession. I will refer to only one. Within thirty days the veterinarians of New Jersey were fortunate in having a law enacted regulating the practice in that State. This subject will be considered in full by the Committee on Intelligence and Education.

The profession protests against an injustice to a conscientious member on account of the profession, but who is to enter a protest against the veterinarian without personal integrity? There seem to be veterinarians ready and willing to lend themselves to schemes which will further their personal ends. Opportunism seems to be the guide for a great many, but my observation has been that such individuals are successful for a while only, for in the end those who make use of them turn against them and not only distrust them, but have not the best opinion of *the* veterinarian.

These conditions, which are potent to a great many, will, in my judgment, continue to exist if the cause for them is not removed. The lack of a broad education and of self-sacrifice are the evils which this Association should use its influence to eliminate. Morally the remedy is at our door, and a broad, liberal

education with self-sacrifice should be strenuously advocated. The beginning must be made when the applicant first raps at the door of our educational institutions and then continued by having teachers of the required calibre.

A period of instruction covering two, three or four years cannot offset this evil if the students do not always have before them the example set by broad-minded, self-sacrificing men of culture with whom they are brought in daily contact. Let it be borne in mind that the action of the opportunist is far-reaching and that his seeming opportunity reflects on the profession to such a degree that it will take a long time to correct the wrong done by him.

Throughout the world, among the liberal professions, there exists a feeling of community and of support. When injustice of any kind strikes one individual member, the entire profession protests regardless of any other sentiment. They protest against the wrong done, not because of the individual, but on account of the profession of which he is a member. Aside from this professional sentiment, the thought of material support has been overlooked in America by the philanthropists of our profession. It is well manifested by the veterinarians of England and France, and by the medical profession of New York State, being expressed by the support and assistance that the members render each other and their families when death or disability overtakes them.

England's National Veterinary Benevolent and Mutual Defense Society has a membership of two hundred fifty (250). It was organized to protect members of the veterinary profession against alleged depreciation of animals as a result of sickness, accidents or opinions honestly expressed in the discharge of their duty; and also to assist such members of the veterinary profession, their widows and orphans who might prove to be deserving of professional benevolence. The French association numbers nine hundred forty (940) veterinarians this year, against three hundred fifty-nine (359) in 1897. It has a fund of twelve thousand dollars ($12,000.)

The New York Physicians' Mutual Aid Association, incorporated in 1868, had at the beginning of this year a membership of over fifteen hundred (1,500). with a permanent fund of forty thousand dollars ($40,000). It gives one thousand dollars ($1,000) to a member's family at his death and renders assistance in adversity during life. The actual expense per member for 1900 was eighteen dollars ($18.)

Our Association can and ought to make a beginning that will before many years be of assistance and benefit to its members. Deeming this a subject of great importance for the future welfare of the Association, I would suggest that a committee be appointed to report immediately, so that definite action may be taken by the Association at this meeting.

The AMERICAN VETERINARY REVIEW, that journal to which our Association a quarter of a century ago gave its support, has steadily grown in influence, and to-day is a factor in the formation of opinions amongst the members of our profession. At its head to-day is the same man who took the burden of nursing it into life. A few years after the publication of this paper, in 1880, the *Journal of Comparative Medicine and Veterinary Archives*, so favorably known to us all, appeared. In order to succeed in any profession it is essential for us to keep in touch with the advance of the day; the press is the factor we must not overlook; it is the guide that blazes the trail to all professional progress.

In the past a great deal of our knowledge has come to us through the work of foreign schools. Has the veterinary profession of America been backward in supplying the world with new facts? I most emphatically say, No. Can any country show an equal amount of energy in dealing with contagious diseases? Can any country show such practical results in immunizing cattle by which an industry within our borders has been so revolutionized that it means untold wealth? Could this knowledge have become of such national importance without the aid of the press? Again I say most emphatically, No.

These are facts that are of great import to us as a body; and I, fully appreciating it, trust that each and every one will benefit himself and thereby the community of which he is a component part, by keeping in touch with the new thought as presented in our veterinary journals, remembering that added patronage increases the power of the press.

Death has made serious inroads in our ranks this past year. As our last meeting was being brought to a close the assassin's blow was struck which plunged the nation into mourning and took from us that staunch friend of the veterinarian, our beloved President of the United States, William McKinley. All nations mourned with us at the untimely end of that great and good man. The story of his life and death will forevermore be an undying example of how a citizen should live and a Christian gentleman may die. Well was it said of him, "No ten-

derer knight to his chosen lady ever lived; ambitious, his sympathy made and kept friends; persuasive in his arguments, by appealing to reason and intelligence, he had the confidence of all and his support was loyal." Never were his friends embarrassed by imprudent or unguarded statements, and such was his courtesy at all times, that his opponents never were offended.

John Faust, one of the oldest and most highly esteemed citizens of Poughkeepsie, N. Y., a member of our Association since 1884, died in the month of July, 1901. His death from general paralysis was indirectly the result of an injury received in a railroad accident about ten years previous. Born in Germany in 1835, he came to this country in 1852. Having learned the cooper's trade, he started in business with two brothers in 1859 at Poughkeepsie, N. Y. All his spare time was given to the study of our profession, and in 1875, the business partnership being dissolved, he devoted his entire time to the study and practice of veterinary medicine and surgery. His success was such that in 1881 the New York Examining Board issued a certificate to him. He served with credit as a member of the Board of Health for several years, and at the time when the question of tuberculosis was being investigated by the State, he was appointed by the Governor of New York as an inspector of cattle. He was the last member elected to our Association who by self-sacrifice had qualified himself. He prized his membership very highly and was seldom absent from our meetings.

On November 20, 1901, Thomas F. Barron, of Baltimore, Maryland, died from a complication of diseases, aged fifty-nine years. Following in the footsteps of his father, a self-made man, from his early boyhood he had devoted himself to his profession. He became a member of this Association in 1887 and was a constant attendant at the meetings. A close student, always a gentleman, he was never known to speak disrespectfully of any man.

December 17, 1901, occurred the death of one whose whole life was devoted to his chosen profession. Not only his untiring energy, but his fortune was contributed to bettering the condition and establishing the prestige of the veterinarian. To him belongs the honor of organizing the Veterinary Department of the University of Pennsylvania, and no one was better qualified to fulfill that trust; having a liberal education and broad knowledge of man, he was always ready to give credit when due, but he was without sympathy for an opportunist and caustic in his denunciation of one. His friendship was to be desired,

for once gained he remained ever true to that bond. This Association and others to which he belonged showed their appreciation of him by conferring on him the highest honors they were privileged to bestow. His reputation as a veterinarian was of a national character, and his services were sought and obtained not only by the Government of the United States, but by various associations of the country to which his broad education, associated with his efforts and labor, made him so well known. The death of Rush Shippen Huidekoper leaves a vacancy in this Association that will be difficult to fill.

In the death of Robert J. Saunders, who passed away in his 66th year at his home in West Roxbury, Mass., one of the original members of U. S. V. M. Association was removed. A self-made man, he took up the profession of his father. Thoroughly conscientious, self-sacrificing and studious, he commanded the respect and good-will of all who knew him. His life was spent in the city of Salem, Mass., with the exception of about one year, when, on account of rheumatism, he was obliged to give up active practice.

The suggestions I have offered and shall offer are made with the hope that the past harmony which has prevailed in the Association may continue. "The Romans until the fall of the empire maintained that all men were equal." "Character and talent will find their level without regard to costume." "Superiority is an attribute of character that is attained by education, practical, literary and social." "No member fulfills his duty to this organization who sets himself to find excuses and evasions to escape from constitutional obligations." "In times of excitement some may not have stopped to consider these, but have followed what seemed to be the current of thought; had they fully investigated the real question and borne in mind their constitutional obligations, certainly they would have fulfilled them with alacrity."

Since the present makes the future, in the words of Daniel Webster, "Let us cherish those hopes that belong to us, let us devote ourselves to those objects that are fit for our consideration and our action." "Let us raise our conceptions to the magnitude and the importance of the duties that devolve upon us. Let us preserve our Constitution and harmony will prevail."

PRESENTATION OF A GAVEL.

At this point, Dr. W. T. Monsarrat, of Honolulu, Hawaiian Islands, stepped to the front of the President's desk, saying that

he had the pleasure of representing the Association in one of our newest possessions in the Pacific Ocean, and that he had brought with him a unique gavel which he hoped the Association would honor him by accepting, and that it might be employed in opening many important sessions. This was received with great applause, and later a resolution was adopted thanking the donor for his thoughtfulness. The gavel itself is probably one of the handsomest and most novel ones in this country. It was manufactured in Honolulu, under the direction of Dr. Monsarrat, the handle being made of native Karvila wood, tipped with the horn of a Sandwich Island wild boar; the gavel-hammer is made of the horn of a native bullock, the base of which is covered by the first Hawaiian silver dollar coined in 1883. An enameled coat-of-arms of Hawaii, in gay colors, adorns the front of the hammer, on the reverse side of which is the following inscription: "Presented by W. T. Monsarrat, V. S., Resident Secretary, Territory of Hawaii, to the American Veterinary Medical Association at the 39th Annual Meeting, Sept., 1902, Minneapolis, Minn."

THE ATTENDANCE.

On motion, the calling of the roll was dispensed with, the attendance being determined by registration cards at the entrance to the hall.

The following members and visitors were present during the various sessions of the American Veterinary Medical Association:

MEMBERS.—Drs. Adams, Annand, Ackerman, Anderson (F. E.), Abele, Ainsworth, Baker (A. H.), Beckett, Behnke, Bell (R. R.), Brenton, Butler (G. W.), Butler (J. S.), Butler (Tait), Brimhall, Burnham, Cooley, Cotton (C. E.), Cotton (T. B.), Dalrymple, Dougherty, Dunphy, Ellis (Chas.), Fischer, Gay, Gibson, Glennon, Gohn, Gould (J. N.), Gould (J. W.), Harris, Heck, Hernsheim, Hinman, Hoskins, Hughes, Hunter, Jakeman, Jewell, Johnson, Jopling, Kelly (Wm. H.), Knight, Knowles, Leech, Lowe (Wm. H.), Loveberry, Lyford, Lyman (R. P.), McInnes, McKenzie, McNeall, Marshall, Martin (W. J.), Mayo, Merillat, Monsarrat, Moore (R. C.), Quitman, Norton, Pearson, Peters (A. T.), Piatt, Pierce (B. D.), Rayen, Ranck, Repp, Reynolds, Robertson (J. L.), Robinson, Ruhl, Ryan, Ryder, Salmon, Schaefer, Schwarzkopf, Smith (T. E.), Schmitt, Shepard, Sprague, Stanclift, Stewart, Stringer, Thomas, Torrance, Walrod, Ward, Winchester, Witte, White (G. R.), Whitbeck, Williams, Young, Youngberg—(94).

MEMBERS REINSTATED.—C. A. Clinton, A. A. Keys—(2).

MEMBERS-ELECT.—Drs. A. Bostram, M. V. Byers, J. W. Cook, S. A. Coxe, J. H. Crawford, John N. Gould, J. W. Haxby, W. S. Henderson, C. J. Hinckley, W. C. Holden, F. A. Ilstrup, H. Jensen, F. E. Lambrecht, G. Lames, R. LaPointe, H. C. Lyon, W. A. McClanahan, D. M. McDonald, G. McGillivray, J. H. McLeod, Peter Malcolm, Edw. L. Moore, H. F. Palmer, Calvert H. Playdon, H. A. Presler, Richard Price, F. A. Rich, C. J. Rhodes, J. G. Rutherford, George A. Scott, J. A. Scott, L. U. Shipley, S. P. Smith, C. E. Stewart, Arthur Trickett—(35).

DELEGATE.—Pennsylvania State Veterinary Medical Association—Dr. J. C. Foelker, Allentown—(1).

VISITING VETERINARIANS.—*Illinois.*—F. H. Ames, Canton; W. H. Welch, Lexington; F. C. Grayson, Paxton.

Iowa.—B. Harmon, Decorah; W. R. Fullerton, Dubuque; H. J. Hagerty, Dubuque; H. L. Stewart, Lacona; F. M. Roys, Manning; J. J. Richardson, Marcus; H. M. Gillian, Mason City; M. F. Leffingwell, Northwood; N. A. Kippen, Riceville; C. E. Narey, Spirit Lake.

Kansas.—E. F. McGraw, Ft. Scott.

Massachusetts.—William M. Simpson, Malden; Wm. Simpson, Springfield.

Minnesota.—T. Falconer, Alexandria; M. S. Whitcomb, Austin; J. J. McLaughlin, Blue Earth; Wm. Soneral, Cambridge; R. K. Jerner, Chatfield; H. Langerin, Crookston; J. T. Nattress, Delavan; J. J. Findlay, Duluth; John McKay, Duluth; L. Hay, Faribault; C. S. Shore, Lake City; H. C. Peters, Litchfield; M. J. Sexton, Minneapolis; J. W. Golden, Redwood Falls; J. Butters, Renville; John P. Graff, New Ulm; E. T. Frank, Warren; C. W. Bujarel, Wendell; Oscar Rydell, Wheaton.

Michigan.—D. S. DeWolf, Hart.

New Jersey.—W. Runge, Newark.

North Dakota.—W. S. Stinson, Crystal.

Ohio.—Gilbert Hess, Ashland; P. A. Dillahunt, Springfield.

Ontario.—Thomas Thacker, Renfreu.

South Dakota.—J. P. Foster, Shelby.

Wisconsin.—S. Beattie, Madison; H. L. Russell, Madison; B. L. Clark, Monticello; C. E. Evans, Racine; D. Roberts, Waukesha; E. D. Roberts, Janesville—(48).

LADY VISITORS.—*Illinois.*—Mrs. A. H. Baker, Chicago; Mrs. W. W. Dixon, Chicago; Mrs. A. Eger, Chicago; Mrs.

Joseph Hughes, Chicago; Mrs. J. F. Ryan, Chicago; Mrs. H. C. Peters, Litchfield.

Indiana.—Mrs. C. B. Ainsworth, Greensburg.

Iowa.—Mrs. J. I. Gibson, Denison; Mrs. William A. Heck, Maquoketa; Mrs. C. J. Hinckley, Odebolt; Mrs. G. A. Johnson, Sioux City.

Kentucky.—Mrs. D. A. Piatt, Lexington; Miss Piatt, Lexington.

Manitoba.—Mrs. F. Torrance, Winnepeg.

Massachusetts.—Miss A. M. Haley, Reading.

Michigan.—Mrs. S. Brenton, Detroit; Mrs. Horace M. Gohn, St. Johns.

Minnesota.—Mrs. A. Youngberg, Detroit; Miss A. May, Lasueur; Mrs. H. C. Peters, Litchfield; Mrs. J. G. Annand, Minneapolis; Mrs. S. D. Brimhall, Minn.; Mrs. C. E. Cotton, Minn.; Mrs. C. C. Lyford, Minn.; Miss Lyford, Minn.; Miss Nellie Carroll, St. Anthony Park; Mrs. M. H. Reynolds, St. Anthony Park; Miss Florence Burnham, Stillwater; Mrs. E. T. Frank, Warren; Mrs. J. A. Scott, Waverly; Mrs. G. Ed. Leech, Winona; Mrs. J. N. Gould, Worthington.

Missouri.—Mrs. C. H. Jewell, Kansas City; Mrs. S. Stewart, Kansas City.

Montana.—Mrs. M. E. Knowles, Helena; Mrs. O. Schwarzkopf, Ft. Assiniboine.

Nebraska.—Mrs. A. T. Peters, Lincoln; Misses Antoinette and Florence Peters, Lincoln; Mrs. W. A. Thomas, Lincoln; Mrs. K. Schafer, Tekamah.

New York.—Mrs. E. B. Ackerman, Brooklyn; Mrs. R. R. Bell, Brooklyn; Mrs. J. E. Ryder, New York City.

Ohio.—Mrs. Flora A. Cooley, Cleveland; Mrs. Paul Fischer, Columbus; Mrs. T. Bent Cotton, Mt. Vernon.

Pennsylvania.—Miss Emma Brooks, Philadelphia; Mrs. W. H. Hoskins, Phila.; Mrs. C. J. Marshall, Phila.; Miss Pearson, Phila.

South Dakota.—Mrs. J. P. Foster, Shelby.

Tennessee.—Mrs. W. C. Rayen, Nashville.

Wisconsin.—Mrs. G. W. Butler, Eau Claire; Mrs. D. Roberts, Waukesha—(54).

OTHER VISITORS.—*District of Columbia.*—E. V. Wilcox, Washington.

Iowa.—Master Joe Heck, Maquoketa.

Illinois.—J. C. Clinton, Alex Eger, Chicago; V. E. Kover, Chicago; D. E. Osgoaby, Chicago; J. L. Schmidt, Chicago.

Manitoba.—J. B. Leeson, M. D., Brandon.

Minnesota.—J. O. Comes, Minn.; V. M. Connelly, M. D., Minn.; J. C. Smith, Minn.; Robert S. Taylor, St. Paul; F. D. Ketchum, So. St. Paul; B. W. Kirby, St. Paul; Jared Burton, Wheaton.

Missouri.—E. Lee, Chillicothe.

Nebraska.—J. C. Boyd, Omaha.

New York.—W. W. Dixon, New York City.

Pennsylvania.—H. P. Brooks, Philadelphia.

Wisconsin.—F. E. Perkins, Ellsworth; Master Butler, Eau Claire—(21).

The minutes of the meeting of 1901 were not read, but the printed "Proceedings" were accepted in lieu thereof.

Dr. W. L. Williams introduced a resolution, expunging from the minutes the action taken at the last meeting in suspending the by-laws and expelling from membership Dr. Claude D. Morris, for his action in connection with the army veterinary bill. It was referred to the Executive Committee, which took up the case and went over the ground quite thoroughly. A letter from Dr. Morris protesting against and refusing to recognize the action of the Association was read by the Secretary. After discussion, the Committee recommended that the Secretary be instructed to return to Dr. Morris the three dollars which he had forwarded for dues for the coming year, and that he be informed that if he feels aggrieved at the action of the Association in having expelled him, that he will be permitted to appear before the Executive Committee at the next annual meeting and state his reasons therefor.

REPORT OF COMMITTEE ON INTELLIGENCE AND EDUCATION.

Dr. E. B. Ackerman, of Brooklyn, N. Y., chairman of this committee, made the following report:

"*Mr. President and Gentlemen:*

"The first work performed by your Committee on Intelligence and Education after appointment was to report the clinics held at Atlantic City, New Jersey, last September, a report of which was published in the Annual Report for 1901.

"It seems to me that the press or Publication Committee should report these clinics or at least give the Committee on Intelligence and Education credit for their part of the report.

"There is an apology this committee wishes to make. Your President was authorized by resolution to appoint a special committee, and a separate motion was made giving this special committee $100 to spend for the purpose of creating public sen-

timent in favor of sanitary measures. This committee did not nor does not yet understand the exact purposes of its special work and the manner in which it was supposed to be accomplished. Almost everything which would interest the profession at large is published in our veterinary magazines, and it is therefore hard for this committee to push sanitary measures before the profession and public without writing original articles, and the chairman of this committee did not feel equal to that task. This committee received only one letter looking for information regarding this separate and new work; this was from a veterinarian in Canada. I am sorry to say that by some accident, before the letter was read the second time, it was lost, and consequently the committee could not answer it because they did not remember the name and address, but the contents were of such a character that had the committee answered it, it would have advised the writer to subscribe for the leading veterinary magazines and keep posted as to what was going on.

"From the first veterinary school established in Boston in 1858 down to date, there have been started and established many veterinary schools, some of mushroom growth and termination, but in many cases it has been the survival of the fittest.

"The colleges to-day as per their announcements for 1902-03 show generally a higher standard of teaching; they give first a better curriculum with a better staff of teachers, more attention to detail and special studies, as bacteriology, microscopy, histology, chemistry, more attention to recitation and clinical work and less to prescribed lectures, and last, but not least, the last few years have shown a better class of students with better preliminary education, many already holding academic and other degrees and who are looking to add their veterinary degree. The higher the entrance standard the fewer the students, but better the quality.

"Of the seventeen colleges in this country, the great majority now give a three-session course of at least six months each. While there are still some of our schools, in spite of all that has been said and done, who still continue to give a two-year course, but promise to change from year to year, each year putting it off until too late, one college advertising that the optional three years will be made obligatory in 1903.

"Much might be said, pro and con, of the advantages of a chair of veterinary medicine in agricultural schools, but still greater stress should be given to the experimental stations in many States. For they are the laboratory, the haven to which

practitioners can go and should go to, to have their diagnoses confirmed or upset, their specimens analyzed or tested, to educate themselves, to obtain knowledge to help them in the future, to reveal secrets they did not know, to give and make material for the experimenters to work on; thus aiding in the advancement of science, to the protection of themselves and their clients' property and the mutual advancement of everybody.

"Too much cannot be said in praise of veterinary medical associations, whether National, State or local; they are, first, the one factor that holds the profession together, that is the tie that binds, and in this union there is strength. It is through the efforts of these various associations that the good accomplished in each State has been successful. They are also the educators or teachers, the post graduate course of all successful practitioners. They bring out and strengthen the ethical, the social, the educational and the fraternal sides of our profession.

"One feature that has been growing in the association work is the appointing of representatives of one State association to attend the meetings of like societies in neighboring States; this is a practice that should be encouraged and developed. Along this same line I might say that our worthy President has during the last year performed an act worthy of emulation, viz.: The appointment of Dr. Knowles as the representative of the A. V. M. A. before the National Live-stock Association, in which he introduced resolutions endorsing the quarantine laws and regulations, established by our government, which were unanimously carried. He also gave a talk on the subject of tuberculosis in cattle regardless of whether it was contagious from animal to man or *vice versa*, and proved to this association that from the standpoint of economical animal husbandry it was for their interest to stand by and support the quarantine laws and not to oppose them, as some greedy breeders desired to do. This coming from a representative of our profession and being unanimously endorsed is a feather in our cap and Dr. Knowles did us credit. And I say that more of these official appointments to various farmers' clubs, breeding societies, State fairs, etc., will be to the advantage of our profession. Along the line of veterinary appointment and representation much can be done to create public sentiment in favor of sanitary measures rather than by committee work, care being taken to nominate or appoint representatives as near the various animal agricultural medical conventions as is consistent with the appointment of men capable of representing our society and profession.

"The practice of some State associations in having their minute papers and discussions taken *verbatim* is a very important one and deserves encouragement. The publishing of these papers and discussions in our veterinary magazines from month to month gives the profession as a whole much benefit and spreads current advancement to many from a large field of experience.

"Some bright mind will some day cull the best articles from those published and compile them and produce a book well worth a place in the library of all veterinarians. 'Of the making of books there are many.'

"This might truly be said of veterinary literature. There have been published in the last few years many books of great value, so that one might read constantly and not keep up with current issue. There is one book that I hope to see this Association hurry, and that is our veterinary pharmacopœia. Of standard books, such as anatomy, physiology, materia medica, etc., we have a very good and needed assortment. It is the books on special topics and general veterinary knowledge written by specialists that it is necessary for the profession to follow to keep posted and up to date. And last, but not least, it is the recommendation of your committee that all members of this profession should take all our veterinary magazines that are published regularly, whether monthly or weekly, together with a regular medical journal as published and used by our sister profession, and to be sure to read them.

"State legislation is contagious; the period of incubation differs widely in many States, some States are rendered immune after their veterinary laws are once passed and successfully operated, while other States seem subject to relapses and decay; again we have some with us who have not yet awakened from their siesta. A *resumé* and comparison of the various and many State laws would be interesting if one had the time and legal inclination.

"I cannot give you as full detail as I had intended on this subject, but it seems to me as the profession is progressing and growing and pushing forward its strength in our legislation halls, it would be well to try and get some uniformity in the new laws. I think New Jersey is a bright model for many of our States to follow, and that State is to be congratulated. It is not only the Bonanza State for trusts in mercantile life, but it has affected the veterinary profession and she has a trust veterinary medical association, made by consolidating three poor

weak, debilitated societies into one grand body; and when this was completed she started out to make laws that would protect its graduate members and the public at large from imposition. These laws were formulated and passed in record time, due to the strength and energy of this association and its officers; the laws were hardly signed before it nominated its examining board, who were appointed by the Governor; they were sworn in at once and the organization was immediately completed by electing its officers and examining committee, and then, for fear some wily emperic would impose on them, they began the formation of county societies to keep tabs locally as a body, as well as individually. No two States seem to agree on the form of administration for its veterinary service, namely, one State will have a State veterinarian with large scope and powers, the next will administer such service through a board of health, department of agriculture, or cattle commission, with the veterinarian as the subordinate. Here again uniformity would be better for us.

"It seems to us the State of Massachusetts has taken a step backward in its veterinary legislation by abolishing its Board of Cattle Commissioners with its own powers, annual appropriation, etc., and making a Cattle Bureau of the State Board of Agriculture, appointed by the Governor and confirmed by the executive council, limited to one clerk and a salary of $2000, thus diminishing the standing, power, situations and ambitions of the veterinary profession. Worse than all, it is not, according to the law, essential that the chief shall be a veternarian at all.

"Maryland during the year has passed a bill carrying an appropriation of $2000, to be used by the Experiment Station to investigate cerebro-spinal meningitis or acute enzoötic leucoencephalitis, an important disease. It almost failed to pass because the investigation was not to be carried on by the Live Stock officials, but this time it fortunately was left where passed, and it was left in the proper hands, and we will probably get some results that will be of benefit to the profession.

"States west are waking to the fact that they need protecting laws and sanitary regulations, but these are only acquired by united action and persistent effort on the part of somebody, especially veterinary societies. Ohio speaks promisingly of suitable laws another year, and so I might go on from State to State. Nothing is more harmful than allowing a good law to become a dead letter. 'A few good laws rigidly enforced,' is a good motto.

"A legislative committee is now essential in all State societies to watch the bills and veterinary interests, for hardly a year goes by that some detrimental bill is not presented, and unless headed off early, needs the united strength of the profession to quash it.

"A year ago Dr. Koch startled the world with the announcement before the British Tuberculosis Congress that the human family was practically immune to bovine tuberculosis. Following that Congress, this Association met in annual session, and after an animated debate resolutions were adopted which were timely and well taken, coming so soon after this startling announcement, but it only went to prove how closely the members of this Association have come together on more than one important disease.

"I believe that since those resolutions were passed by this Association it has been amply demonstrated that the human system is easily susceptible to the bovine bacillus and that the bovine is capable of inoculation by some human bacilli, but not so readily or easily as the reverse. There has been ample laboratory evidence demonstrated to absolutely confirm our position. And I think we can positively say, without reservation, that to all animals and man the bovine tubercle is more virulent than human bacillus, which is not as certain. Our experiments on monkeys is as near the human test as we can get, but that seems close enough. Dr. Garnault, of France, who inoculated himself in the presence of medical witnesses in a public abattoir in Paris last June with matter taken from a tubercular cow, has written that the inoculations have produced tubercular tumors, and for fear this would delay too long in producing a constitutional condition, he has since inoculated himself internally.

"Many countries have formulated systems for the control of tuberculosis in cattle, chief of which has been what we know as the Danish system. Working with that end in view, a number of Philadelphia veterinarians wrote a composite article entitled, 'Columella's Plan for the Economical Control and Eradication of Tuberculosis.' This is a very excellent article, and should be drawn to the attention of every health or agricultural department in the various States, to all local health departments, and we would specially draw the attention of the Bureau of Animal Industry to this as being particularly applicable to control interstate cattle.

"There is one other matter this committee wishes to draw to your attention, and that is the editorial that appeared in the

June number of the AMERICAN VETERINARY REVIEW. This editorial refers to articles which appeared in previous numbers of this magazine by our friend, Dr. Liautard, and is entitled and reads as follows: 'The Veterinary Benefit and Protective Association.' . . . 'It is not infrequent that in a business which is rated by the insurance people as "extra-hazardous" that a veterinarian is disabled for weeks and even months by an accident which incapacitates him for any duty; or by disease, the result of infection from a patient, or through the natural penalties of human existence; or in case such accident or disease is sufficiently severe to terminate his life, then the question of the means for immediate necessities imposes itself upon him or those whom he may leave helpless behind him. All professions, trades, and businesses have their mutual aid associations, through which, by the annual payment of a small premium, a certain sum is guaranteed to each member in case of disability or death. . . .' It seems to your committee that this is the time and the place to start something of this sort, for where or how could it be better accomplished than in our National Association, which contains the intellect and push of the whole profession. Here we could draft our rules and regulations, elect our trustees and officers and if successful we could extend it to our State Associations making them subordinate bodies to report to this supreme body and work it on the plan of all mutual benefit associations. It would be of incalculable benefit to our members, and perhaps it would have the additional advantage of increasing our membership by its protecting as well as scientific stimulation."

The report of the committee was very fully discussed, particularly as to the subject of the creation of a mutual benefit and aid association. Dr. W. Horace Hoskins thought that from the standpoint of insurance it was not so urgent, since many insurance companies and fraternal organizations offered very cheap and elastic conditions, which placed protection in case of death within the reach of all; but he was personally cognizant of many cases where through disease, accident, or other circumstance the head of a family became so reduced in his ability to provide for those dependent upon him as to render his life and theirs a great hardship; and he thought that if the benefits were to flow to such unfortunate cases that the creation of such a fund would be a great blessing. While others discussed the subject, no definite action was taken. It will be noted that President Winchester dealt with the same subject at considerable length in his address; so that the question has been opened

up in a prominent manner, and at the next meeting possibly it will take tangible form, as the members will have had time to think over the matter, and a leader found who will undertake its organization.

Another recommendation of the committee as to colleges and examining boards brought out a lively discussion. There were some suggestions that certain schools were not living up to the requirements of the Association, and that graduates from them were being received into membership in the A. V. M. A. who had not received the requisite instruction, and various ideas were put forth as to the best methods of making the courses more uniform. Some thought a committee should be appointed to inquire into the matter and report; but it was finally decided that such work came clearly under the jurisdiction of the Committee on Intelligence and Education; and accordingly that committee was instructed to ascertain from the heads of the various schools, either by correspondence or verbally, just what is being done, in the matter of hours, instructors and curriculum. Also, that the various State examining boards should be interrogated as to their methods, and the whole to be embodied in the next annual report. Prominent in this discussion were Drs. Quitman, Hoskins, Norton, Gibson and others.

OTHER COMMITTEE REPORTS.

The Committee on Diseases, through Chairman Ranck, presented a lengthy report, dealing principally with anthrax, as per instructions at the Atlantic City meeting. He dwelt largely upon the bacterian aspect of the subject, and his report showed great care and much research, it forming a valuable contribution to the etiology and pathology of the disease.

The Committee on Army Legislation reported verbally through Chairman Pearson that it was not advisable to press the question upon Congress of raising the status of the veterinarian in the Army at present. The Secretary of War felt that the improvement made in the service a couple of years ago should be given a greater trial, and that any efforts made now would not receive his approval or support. So that it would be better to reserve our ammunition until later, when there would be a change in the *personnel* of the War Department.

The Committee on Pharmacopœia also reported verbally through Chairman Merillat, that as the undertaking was a very large one it should be understood that the members of the committee should not be subject to change by new administrations; that those selected should be non-removable until their work

had been completed. He stated that he was giving the question earnest thought, and would soon assign to the different members of the committee definite work to do, and that he hoped by the next meeting to report good progress.

The Committee on Resolutions, as is customary, reserved their report until near the close of the meeting, and the results of their deliberations will be found elsewhere in this issue. All the resolutions offered by them were unanimously adopted.

Treasurer Lowe showed that at his last report he had on hand $1319; that during the year he had received from Secretary Stewart $800, making a total of $2119. He disbursed for secretary's salary, expenses of State secretaries, printing the "Proceedings," stationery, printing, etc., $1542.17, leaving a balance on hand of $576.83. The replenishing of the treasury from the annual dues and from sixty-six new members for the 1902 meeting are not included in this report.

The Secretary's report was quite voluminous, and dealt with the affairs of the Association in general. It is here given in full:

SECRETARY'S REPORT.

"The Association year culminating in this annual meeting has been one of continuous activity for your Secretary. The obligations of this office have increased with each succeeding year in proportion to the increase in membership and the greatly enlarged demand on the time and talents of practitioners. Not many years ago very few veterinarians were so busy that they could not give time to correspondence and preparation of contributions for local and national meetings. Now the nearly universal response to requests for papers is, 'I cannot possibly find time to write a paper, and I do not feel sure that I can attend the meeting; my practice requires every moment of my time and I cannot secure a competent substitute. I want the benefit to be derived from the meeting and need the rest and recreation, but fear I cannot have them.' This state of business activity has made the Secretary's duties difficult. The self-sacrificing professional spirit, however, pervades our membership and has made possible the preparation of the programme announced for this meeting. The number and character of papers which bear direct relation to general practice have stimulated general interest in the meeting, and numerous letters received from veterinarians from widely separated parts of the continent have expressed their earnest desire to be present to

profit by the presentation and discussion of the papers.

"The veterinarians of Minnesota have taken special pride in this meeting to be held in their capital city and have left no stone unturned to interest the veterinarians of the northwest. They have very greatly aided the officers of the Association in keeping the date and occurrence of this meeting before the profession of the country.

"The broad professional spirit of the Association manifested in the adoption of its name has encouraged the veterinarians of the Dominion of Canada to take an active interest in the organization, as you will note by reference to the list of contributors to the programme of papers, the number of applications for membership from the Dominion and by the relatively large attendance therefrom. It is very gratifying indeed to know that the veterinarians of this continent do not recognize political boundaries as boundaries of veterinary science.

"The helpful influence of this Association is becoming more and more manifest and I believe that all are convinced of the wisdom of holding the annual meetings in various parts of the continent so that professional uplift may be widely disseminated.

"The financial affairs of our Association have continued in a healthy state, which has permitted the resident secretaries and committees to perform their duties without personal financial loss. If this phase of our Association's work be carefully looked after, its future power for good will be greatly multiplied.

"Two letter files are taxed to the extent of their capacity to hold the communications received during the year and a thousand page copying book has been filled as record of out going letters, in addition to two sets of printed letters sent all members. This is equivalent to four personal letters to each member. The resident secretaries have sent two letters and a copy of our programme to all worthy veterinarians, not members, in their respective territories, extending a cordial invitation to them to attend this meeting and to become interested in this organization. I believe these cordial letters are potent agents in promoting a higher ethical and professional standard among veterinarians throughout the continent, and that they assist in promoting all the purposes for which this Association is maintained.

"The families of deceased members sent grateful acknowledgments of obituary resolutions adopted during the last annual meeting. Mrs. Geo. Fleming also sent to the Association photographs of her deceased and distinguished husband.

"Every instruction of the Association and the President, Dr. J. F. Winchester, have been faithfully followed and the behests of all members given immediate attention, and, so far as the Secretary is informed, harmony and good will prevails.

"The finances of the Association are shown in the following statement:

Collections.

Dues collected, period ending Sept. 1st, 1902	$1,141.00	
Initiation fees	295.00	
Total		$1,436.00

Disbursements.

Expenses 1900-1901.			
Postage and express incurred by resident secretaries		75.07	
Bills of publication, resolution and pharmaceutical committees		19.41	
Lechtam Printing Co		106.45	
Bill of Treasurer, postage and printing		9.24	
Bill of President, sundries		6.05	
Postage and sundries by Secretary		26.05	
Salary of Secretary		300.00	542.27
Expenses 1901-02.			
Use of stereopticon		20.00	
Floral emblem, Dr. Huidekoper		20.00	
Blank certificates of membership		57.50	
Publication of proceedings:—			
Stenographer	$127.65		
Extra typewriting	10.50		
Printing, binding and mailing	594.52	732.67	
Printing and distributing stationery for President, Secretary and resident secretaries		97.75	
Secretary's Expenses:—			
Postage	15.00		
Issuing certificates to new members	25.49		
Engrossing obituary resolutions	7.00		
Sundry items	10.99	58.48	
Treasurer's bond		10.00	
Treasurer's bill, stationery and postage		3.50	999.90
Total			$1,542.17
Cash in the hands of the Treasurer		576.83	
Cash in the hands of the Secretary		636.02	1,212.85
Bills outstanding, estimated			600.00

"It will be noted that the committee on local arrangements for the Atlantic City meeting did not accept the customary allowance of $50.00 for banquet purposes.

"In closing this report I wish to acknowledge the universal

assistance given me by the resident secretaries and the growing interest manifested by these officers in spreading the influence of the A. V. M. A. The relation with all officers and members has been most cordial throughout the year.

"Very respectfully submitted, S. STEWART, *Secretary*."

STATE SECRETARIES' REPORTS.

The State Secretaries did not generally make reports, but there were many notable exceptions. Those present who read reports were Dr. J. C. Norton, for Arizona; Dr. J. I. Gibson, for Iowa; Dr. J. S. Butler, for Minnesota; Dr. C. J. Marshall, for Pennsylvania; Dr. T. E. Robinson, for Rhode Island; and Dr. G. R. White for Tennessee. Other State Secretaries who sent in reports, which were read by title and will be published in the "Proceedings," were Dr. J. G. Hill, for Florida; Dr. Benj. D. Pierce, for Massachusetts; Dr. T. E. Smith, for New Jersey; Dr. F. E. Anderson, for Ohio; Dr. Benj. McInnes, for South Carolina; Dr. S. B. Nelson, for Washington, and Dr. L. N. Reefer, for West Virginia.

The report for Pennsylvania by Secretary C. J. Marshall was especially interesting, and is given herewith in full:

"The veterinary profession of Pennsylvania is made up of about 1700 registered men; nearly 300 of this number are college graduates. About 1000 names on our registration list were placed there improperly and have ceased to have any identity with our profession. We are fairly well organized and working in harmony on all legislative and professional subjects. There is one State organization composed of about 200 working members, which represents all sections of the commonwealth. There are also several energetic local societies. The State Association reached its twenty-first birthday last year. It attained its majority with a rich inheritance of perseverance and integrity from its founders, who are still guarding its interests, as only thoughtful and loving parents can do. In the A. V. M. A. we find enrolled 27 members from Pennsylvania. Of the 300 men eligible we hope soon to see a much larger per cent. belonging to the National Association.

"The Keystone Veterinary Medical Association meets in Philadelphia the first Tuesday evening of each month. At present it is trying to devise a plan for the improvement of the milk supply to our hospitals and public institutions. A circular letter was sent out last winter to the different stewards or managers, and it was found that very little attention was being

paid to the inspection of milk, the system of handling it or the cleanliness of the herds and dairies supplying it.

"The State Board of Veterinary Medical Examiners has been established seven years. In this short time it has demonstrated its usefulness. The records show each year that the young men presenting themselves for the examinations are much more thoroughly prepared for their work, and that better educated and more scholarly young men are entering our profession. This Board is trying at present to get an Act passed by the Legislature whereby a re-registration will be made necessary. This appears to be the only plan by which the registration lists can be freed from the names of many persons who have no connection with our profession. This Board has secured convictions against three illegal practitioners, and has three more cases in the courts at present. Most of the complaints brought before the Board are adjusted peaceably. The Secretary attends personally and promptly to all complaints, and has the faculty of bringing about a settlement, usually without legal assistance. His term of office expired last year, and the Governor recognized his usefulness by reappointing him, which action met with the unqualified approval of the entire profession.

"The State Live Stock Sanitary Board of Pennsylvania was organized in 1895. Its thorough organization was brought about largely through the efforts of our State Veterinarian, whose tact, scientific skill and indomitable perseverance have made it the admiration of our profession. We wish that every State in the Union had a similar Board equally as well organized and working as harmoniously for the good of our live stock interests. The little opposition to the Board for the first few years has gradually subsided, until at present very little criticism is heard from any source. At present the Board is trying to devise plans whereby cattle reacting to the tuberculin test and showing no visible signs of disease, can be utilized with less loss to the owner and State than is necessary under the present regulations. It has under observation a good sized herd of reacting animals and is studying the sanitary precautions necessary to handle such a herd and also the best way to dispose of its products.

"The Laboratory of the S.L.S.S.B. is one of the most complete of its kind. All of the tuberculin, mallein, and most of the vaccines used in the State are manufactured in this laboratory and distributed among our profession free of charge. This alone represents a sum of money which would cost the State

quite as much as it does to run the laboratory, yet its principal value is for research and diagnostic purposes. In the lines of research work a method is being tested for immunizing cattle against tuberculosis by a process of vaccination with attenuated cultures. For diagnostic purposes the laboratory has become a necessity. Special shipping boxes are deposited with veterinarians in different sections of the State with directions for packing and shipping specimens. These specimens are examined pathologically and bacteriologically if necessary. In case of infectious diseases, the result of the examination is returned promptly to the shipper with instructions and the necessary material for handling the outbreak. In the past year very few cases of glanders have been observed. This disease may be said to be extinct in Pennsylvania and only occurs here and there as it is brought in from other States. Altogether there are about a dozen cases a year. A few cases of anthrax and some rabies have been reported. The rapid diagnosis of rabies as practiced in the laboratory, consisting in an examination of the cervical ganglion, economizes a great deal of valuable time in cases of suspected rabies.

"The instructions for obtaining specimens, and the directions for handling contagious diseases sent to the veterinarians by the State Board and the Laboratory, have been equivalent to a post graduate course for all who have had to deal with such cases. It has stimulated the desire among our profession to read more, and become more familiar with the most modern ideas. Its influence has done much to unify our profession and make it more highly respected.

"There are many factors at work for creating a greater demand for more and better domestic animals. This benefits our profession indirectly. Where valuable animals are kept, skillful veterinarians are required. Among these factors the most notable are horse shows, dog shows, fat stock shows, the numerous pet stock shows at county fairs. Each in its turn stimulates the desire to breed animals true to some certain type. The demand was never better for a first-class specimen of any class or type. In the last few years many wealthy gentlemen have become interested in show competitions and fabulous prices are paid for animals that possess qualities suitable to become show animals. There has been a marked increase in the demand for saddle horses. The bicycle has been relegated to oblivion, and horse-back riding has become much more popular. Horse shows have increased the value of all fashionable classes of

horses. These shows have been a source of education to those interested in the equine species.

"In the matter of meat and milk inspection very little has been done in the past year. The Federal meat inspectors are doing good work in Philadelphia, and we hope that the time is not far distant when we can have some system of meat inspection for cities of the first and second class especially that will do as thorough work in the inspection of local dressed meat for home consumption as is practiced at present by the Federal inspectors.

"A very satisfactory system of milk inspection is carried on in Philadelphia under the direction of the Pediatric Society. This society will recommend milk from any dairy that will conform to its requirements. The society employs a veterinarian, bacteriologist and a chemist to make inspections at certain intervals, at the expense of the dairymen. The veterinarian is to be satisfied with the health of the cows, with the cleanliness of the herd, stable assistants, milking utensils, general sanitary conditions, feed, etc., and that the interest and precautions necessary for producing clean milk are exercised faithfully and constantly. The tuberculin test is to be used at the discretion of the veterinarian.

"The bacteriologist examines the milk at least once each month. The bacteria must not exceed 10,000 per c.c.

"The chemist must be satisfied with the natural constituents of milk and that no artificial preservatives are added to it.

"At present there are five dairies producing milk for the Philadelphia market under these conditions. We hope in time that there will be milk enough produced under these or similar rigid conditions, to supply all persons who appreciate the necessity of using clean milk. Milk produced in this manner, must of necessity bring a few cents more per quart than milk produced and handled in a careless manner. People recognize different qualities of clothing, meats, vegetables, cigars, liquors, etc.; why should they not also recognize and appreciate the different qualities of milk, and be willing to pay for the extra pains necessarily involved for obtaining it clean and wholesome? The beneficial effects of the dairies producing milk under the direction of the Pediatric Society are observed by other dairymen, and a decided improvement is noticed on the farms in close proximity to such dairies. The same interest produced in horses by horse shows, and in dogs by dog shows, can also be produced in dairies by model dairies. It should be our duty to

encourage such undertakings in every way possible. It has been said of dairies producing milk under such careful conditions that they are short lived; that the enthusiasm is soon lost and that business drifts back into the same old rut. This has not been observed in respect to the work done for the Pediatric Society. Certified milk has been produced and sold in Philadelphia for the past five years, and the demand is increasing.

"The Veterinary Department of the University of Pennsylvania is at present located in temporary quarters. The old buildings were razed last year to make room for a medical and veterinary laboratory. The plans for the new building are about completed. The construction is expected to begin soon. It is to be located on one of the principal streets near the University, on a site that will be much more desirable than where it formerly stood. The plans are for one of the most complete and unique buildings of its kind in any English-speaking country.

"Three members of our profession have died in the last year. Dr. W. T. Miller, of Apollo, Pa., one of the old members of the A. V. M. A., died June 18th, 1902. He was a graduate of the American Veterinary College, class of 1887. Dr. James Beatty, a native of Pennsylvania, graduated from the Veterinary Department of the University of Pennsylvania in 1897. He was employed three years prior to his death as a Federal meat inspector and was located in Philadelphia at the time of his death. His loss is keenly felt by his many friends, who esteemed and respected him for his loyalty, integrity, perseverance and professional skill. Dr. Rush Shippen Huidekoper, whose death I also have the sad duty to report, was one of the greatest builders of the veterinary medical profession in America. His death is a national loss, and is most keenly felt in his native State by those who knew him best. The honor of doing his memory justice at this meeting has fallen on one of his most faithful friends and fellow workers. Suffice it to say that his sentiments are the sentiments of the entire profession."

On Wednesday morning, Sept. 5th, the convention met at 9.30, with the President in the chair, and a very large attendance of members and visitors.

The Executive Committee's report was presented and acted upon in accordance with its recommendations.

ELECTION OF OFFICERS.

The convention then proceeded to the election of officers for the ensuing year. During the preceding evening there had

been considerable electioneering and discussion of candidates, there being three names prominently mentioned for the office of President and as many more for that of Secretary. By the time the meeting opened, however, the atmosphere had cleared very much, and it was not hard to guess the outcome of the elections.

For President, Dr. Pearson, in placing in nomination Dr. M. E. Knowles, of Montana, paid a splendid tribute to his worth and services to the cause of veterinary science and his eminent fitness for the position. Dr. Hoskins placed the name of Dr. S. Stewart before the convention, saying that no eulogy was necessary in the case of this nominee, since his great work in behalf of the Association and the science were known to all present. Dr. Norton seconded his nomination. Dr. W. J. Martin, of Illinois, placed Dr. A. H. Baker's name before the convention for President, and it was seconded by Drs. Quitman and Leech. Dr. Knowles refused to allow his name to be used for the office, as he considered both of the other candidates more entitled to the position.

President Winchester appointed as tellers Drs. Ackerman and Marshall, and they proceeded to distribute and collect the ballots of the members. Ninety-eight ballots were cast, of which Dr. Stewart received 68; Dr. Baker 29, and one was blank. Dr. Baker moved that Dr. Stewart's election be made unanimous, which was carried.

To elect five Vice-Presidents (seniority to be determined, by the number of votes received by each), eight gentlemen were placed in nomination, as follows: Dr. E. M. Ranck, of Pennsylvania; Dr. M. H. Reynolds, of Minnesota; Dr. J. G. Rutherford, of Canada; Dr. E. B. Ackerman, of New York; Dr. G. W. Dunphy, of Michigan; Dr. W. H. Dalrymple, of Louisiana; and Dr. W. T. Monsarrat, of Hawaii. The result was that the following were elected: Rutherford (78), Dalrymple (69), Ranck (58), Reynolds (57), Knowles (57).

For Secretary, Dr. S. Brenton nominated Dr. Tait Butler, of North Carolina, seconded by Drs. Kelly and Reynolds. Dr. Knowles nominated Dr. John J. Repp, of Iowa, seconded by Drs. Merillat, Stewart, Moore, Robertson, and Gibson. Dr. Wm. J. Martin, of Illinois, was placed in nomination by Dr. Quitman. The result of the ballotting showed Dr. Repp to be elected by a plurality of 16.

When the office of Treasurer was reached some one made a motion that nominations be closed, even before there was one

made, for it has become so usual for the present incumbent to be kept in office by closing off nominations after his name has been presented that we presume the member did so in a mechanical manner. He was only premature, for as soon as half a dozen nominated Dr. Wm. Herbert Lowe, the nominations closed and he was elected by acclamation.

So that the officers of the A. V. M. A. for 1902-03 are as follows:

President—S. Stewart, of Missouri.
Vice-Presidents—J. G. Rutherford, of Canada.
—W. H. Dalrymple, of Louisiana.
—E. M. Ranck, of Pennsylvania.
—M. H. Reynolds, of Minnesota.
—E. M. Knowles, of Montana.
Secretary—John J. Repp, of Iowa.
Treasurer—Wm. Herbert Lowe, of New Jersey.

PAPERS PRESENTED.

Dr. A. H. Baker, of Chicago, Ill., read a paper entitled "The Pathogenesis of Equine Pneumonic Emphysema," which opened up a new line of thought in connection with this somewhat common disease of the soliped. Dr. Bell believed that the causes assigned by the essayist were not primary, but aggravations of a pulmonic nerve paresis. In the November REVIEW the paper will be printed in full.

Dr. Repp, of Ames, presented a somewhat lengthy and very minute description of the recently described disease which he has named "External Ulcerative Ano-Vulvitis of Cattle," which was so exhaustive that he had to omit much of the minutiæ. Happily the REVIEW was enabled to secure a copy of Dr. Repp's paper, and it will be found elsewhere in this number.

Dr. W. C. Rayen, of Nashville, Tenn., made a strong plea for the stock-raisers of his State in his paper "Texas Fever and Its Relations to the Live Stock Interests of Tennessee," which was discussed by Drs. Salmon, Tait Butler, White, and Dalrymple.

"Equisetum Arvense" was the subject of a very explicit paper by Dr. F. A. Rich, of Burlington, Vt., and a novel feature was the distribution to each auditor of a bulletin of the Vermont Experiment Station on the subject of the poisonous plant described, together with a specimen of the plant, which is commonly known as "horse-tail," and which is extensively distributed throughout the country. By invitation Dr. Wilcox, expert

in poisonous plants for the Bureau of Animal Industry, who has spent much of his time in Montana and other Western States in such researches, gave an extremely interesting description of the action of this plant among domestic animals, together with efforts at treating animals poisoned by it with permanganate of potash. This brought forth a confession from Dr. Pearson that he had also tried similar treatment in the disease which he has described as "Forage Poisoning," it being what is familiarly known as so-called "cerebro-spinal meningitis." It will be remembered that Dr. Pearson has taken ensilage from a farm where this disease was prevalent, and by feeding it to healthy horses at the hospital of the Veterinary Department of the University of Pennsylvania produced the identical symptoms. He stated that while some improvements in the symptoms were produced by the use of the permanganate he did not have sufficient data to make a definite statement as to its therapeutic effects.

"The Organization of State Veterinary Work," by Dr. Leonard Pearson, was not presented in its allotted place, but when ready for presentation so little time was left that he did not attempt to read his long report; but gave an extremely valuable talk upon the subject, giving dates and figures with an accurateness that denoted great familiarity with the subject. His paper was turned over to the Publication Committee, and will be printed in full in the "Proceedings."

Dr. J. C. Norton, of Phœnix, Arizona, State Veterinarian, showed the "Results of Strict Sanitary Regulations in Arizona," and proved to all the great benefits that may be secured by states which enact and enforce wise measures along these lines.

The thorough manner in which the papers were discussed necessitated an evening session on Wednesday, and the members sat without leaving their chairs until 11 o'clock, taking the deepest interest in all that transpired.

"Hæmorrhagic Septicæmia in Cattle," was the subject of Dr. S. D. Brimhall's paper, and a very thorough one it was, for every aspect of the new disease was gone over, particularly its bacteriological side. Dr. Peters, of Nebraska, discussed it from the standpoint of its similarity to what has been so often described as "corn-stalk disease," and he and the essayist exchanged views upon this point. Dr. L. B. Wilson, bacteriologist of the Minnesota State Board of Health, was called for, and detailed in a very clear manner his work with the disease, de-

scribed from a bacteriological standpoint, while Dr. Westbrook, professor of pathology at the Minnesota State University, contributed much valuable information on the subject in a pathological sense.

"Poisonous Stock Foods," a well prepared and splendidly read thesis by Dr. N. S. Mayo, of Manhattan, Kansas, brought out some very lively discussion. Dr. Peters at once took the floor in defence of many plants which were placed in the suspicious column by the essayist; Dr. Butler came to the rescue of cotton-seed meal; Dr. Dalrymple was eloquent and statistical on the subject of balanced rations, while questions were plied from many quarters; the essayist in answering them, showed himself in possession of a wide and complete knowledge of the whole subject The discussion only ceased when the President shut off the debate through lack of time.

Dr. Charles Schmitt, of Dodgeville, Wis., had a very practical paper on "Barrenness in Bovines," which was likewise a provoker of lively discussion, in which Drs. Rutherford, Ryder, Mayo, Abele, Lyman, and others took part. This paper is printed in the present number of the REVIEW.

The reading of papers was continued on Thursday morning.

"Malarial Fever in the Horse," proved an extremely valuable paper by Dr. F. Torrance, of Winnipeg, Manitoba. He and Dr. Bell, of Canada, have been carrying on extensive investigations as to its cause, examining blood and tissues; but, while much has been learned of "swamp fever," no definite microörganism has been isolated. Dr. Rutherford added some strong points in his argument, and Dr. Olof Schwarzkopf, fresh from the Philippines, spoke of the close relationship between the disease described and "surra," only that if it were identical he failed to understand how the investigators could have overlooked the large parasite in the blood. He promised to write upon the subject when he got settled in his new station in Montana.

"Differential Diagnosis between Farcy, Furunculus, and Bursatee" was Dr. Lyford's title, and he followed up his points at the clinic by presenting patients affected with each disease.

"The Legitimate Field of the A. V. M. A." was the subject of a paper by Dr. Roscoe R. Bell, of New York, but instead of reading it the author made a statement that his efforts were directed toward defending the rights of the practitioner in the Association, which had been assailed in public print, with the idea of throwing out of the annual meetings clinics and practi-

cal papers. It was very late, and but little time remained for the presentation of papers, and as the Association had shown by resolution and by the applause of speakers who took the same view as the essayist that it would brook no such contention, so that no good purpose could be served by consuming the time of the meeting in considering a subject already decided. The author therefore turned his paper over to the Publication Committee.

The literary programme was brought to a close by the presentation by Dr. W. Horace Hoskins of a eulogy of his late friend, Dr. Rush Shippen Huidekoper.

Other papers which were not read on account of the absence of their authors, most of which will be published in the "Proceedings," are as follows:

"The Veterinary Profession, Past, Present and Future," by Dr. D. McEachran, of Canada; "The Relation of Veterinary Science to the Medical Profession," by Dr. D. King Smith, of Canada; "The Hospital Management of Dogs," by Dr. Chas. Ellis, of Missouri; "Sidebones," by Dr. J. S. Anderson, of Nebraska; "Ictero-hæmaturia of Sheep," by Dr. M. E. Knowles, of Montana; "The Care and Comfort of Domestic Animals under Varying Circumstances," by Dr. E. A. A. Grange, of New York; "Equine Periodic Ophthalmia," by Dr. M. Jacob, Knoxville, Tenn.; "So-called Contagious Ophthalmia of Cattle," by T. D. Hinebauch, of North Dakota; "A Tumor-like Lesion in the Lung of a Horse Caused by a Blastomyces," by Dr Langdon Frothingham, of Massachusetts.

NEW MEMBERS ELECTED.

The following applications for membership were reported on favorably by the Executive Committee at its various sessions, and were duly elected to membership:

C. A. Clinton, M. D. C. (C. V. C., '94), Laurens, Iowa; reinstatement.

M. C. Baker, D. V. S. (McGill, '79), Montreal, Can.; voucher, Chas. H. Higgins.

Fred. Forbes Bushnell, D. V. M. (N. Y. S. V. C., '02), Winsted, Conn.; voucher, Thos. Bland.

Robert E. Cochrane, M. D. V. (McKillip V. C., '00), Milwaukee, Wis.; voucher, R. H. Harrison.

S. A. Core, V. S. (O. V. C., '92), Brandon, Manitoba, Can.; vouchers, W. J. Hinman and F. Torrance.

J. M. Creamer, V. S. (O. V. C., '87), Portland, Oregon; voucher, Wm. McLean.

J. W. Dunham, V. S. (O. V. C., '94), Fargo, N. D.; vouchers, W. F. Crewe and T. D. Hinebauch.

J. H. Gain, M. D. C. (C. V. C.), Lincoln, Neb.; voucher, A. T. Peters.

Otto Faust, D. V. S. (A. V. C., '88), Poughkeepsie, N. Y.; voucher, Wm. Henry Kelly.

Jno. C. Hargrave, D. V. S. (McGill, '95), Medicine Hat, N. W. T., Can.; voucher, Chas. H. Higgins.

Edward T. Harrington, (M. D. V., '90), Boston, Mass.; vouchers, B. D. Pierce and H. P. Rogers.

W. C. Holden, V. S. (N. Y. C. V. S., '80), Delphos, Ohio; voucher, F. E. Anderson.

Geo. A. Knapp, V. S. (N. Y. C. V. S., '95), Millbrook, N.Y.; voucher, Wm. H. Kelly.

T. Lambrechts, M. D. V. (McKillip V. C., '01), Montevideo, Minn.; vouchers, M. H. Reynolds and J. S. Butler.

Morgan B. Lamb, D. V. M. (Ohio State Univ., '01), Pullman, Wash.; voucher, Sofus B. Nelson.

K. La Pointe, D. V. S. (Montreal, '85), Le Sueuer, Minn.; voucher, J. S. Butler.

H. C. Lyon, V. S. (O. V. C., '91), Hutchinson, Minn.; voucher, J. S. Butler.

D. M. McDonald, D. V. S., '91), Brainerd, Minn.; voucher, J. S. Butler.

Geo. McGillivray, V. S. (O. V. C., '85), Spring Valley, Minn.; voucher, J. S. Butler.

E. Makins, Jr., D. V. S. (K. C. V. C., '00), Abilene, Kan.; voucher, N. S. Mayo.

A. W. Miller, D. V. S. (K. C. V. C., '01), So. Omaha, Neb.; voucher, S. Stewart.

B. O. Minge, M. D. V. (McKillip V. C., '01), Memphis, Tenn.; voucher, G. R. White.

E. L. Moore, D. V. S. (Vet. Dep. Col. Univ., '98), Brookings, S. D.; vouchers, James Law and D. E. Salmon.

Joseph W. Parker, D. V. S. (K. C. V. C., '00), San Antonio, Tex.; voucher, S. Stewart.

Adolph J. Pistor, D. V. S. (A. V. C., '98), Newark, N. J.; vouchers, A. T. Peters and Jno. D. Sprague.

Calvert Howard Playdon, M. D. V. (Harvard Univ., '96), Reading, Mass.; vouchers, B. D. Pierce and J. F. Winchester.

F. A. Rich, V. S., M. D. (O. V. C., '89), Burlington, Vt.; vouchers, B. D. Pierce and J. F. Winchester.

C. J. Rhodes, M. D. C. (C. V. C., '94), Beloit, Wis.; voucher, C. C. Lyford.

J. J. Riordan, D. V. S. (A. V. C., '94), Beverly Farms, Mass.; vouchers, A. J. Sheldon and F. H. Osgood.

J. G. Rutherford, V. S. (O. V. C., '79), Ottawa, Can.; voucher, Chas. H. Higgins.

Jno. A. Scott, M. D. C. (C. V. C., '93), Waverley, Minn.; vouchers, S. D. Brimhall and J. S. Butler.

J. N. Sheppard, M. D. C. (C. V. C., '93), Langdon, N. D.; vouchers, W. F. Crewe and T. D. Hinebauch.

T. P. Smith, M. D. V., D. V. M., B. S. A. (Iowa S. C., McK. V. C., '99, '00), Cando, N. D.; voucher, John J. Repp.

U. S. Springer, V. S. (O. V. C. '80), Grand Rapids, Mich.; vouchers, S. Brenton and W. L. Williams.

Harry F. Steele, D. V. S. (A. V. C., '93), Fort Sill, O. T.; voucher, Ray J. Stanclifte.

R. H. Treacy, M. D. C. (C. V. C. '94), Bismarck, N. D.; vouchers, W. F. Crewe and T. D. Hinebauch.

Arthur Trickett, (K. C. V. C., '01), Kansas City, Mo.; vouchers, A. T. Peters and R. C. Moore.

Harry W. Watson, V. M. D. (U. of P., '01), Haverhill, Mass.; voucher, B. D. Pierce.

A. L. Wood, D. V. M. (Iowa S. C., '02), Prairie City, Iowa; vouchers, Jno. J. Repp and Carl W. Gay.

J. N. Gould, D. V. M. (Iowa S. C., '02), Fairmount, Minn.; voucher, S. H. Ward.

H. Jensen, M. D. C. (C. V. C., '00), Weeping Water, Neb.; vouchers, A. T. Peters and J. F. Winchester.

Samuel Burrows, V. M. D. (U. of Pa., '02), Philadelphia, Pa.; vouchers, S. J. J. Harger and C. J. Marshall.

J. H. Crawford, M. D. V. (McK. V. C., '97), Harvard, Ill.; voucher, L. A. Merillat.

J. W. Haxby, D. V. S. (C. V. C., '92), Villisca, Ia.; vouchers, John J. Repp and W. A. Heck.

W. S. Henderson, V. S. (O. V. C., '87), Carberry, Man.; vouchers, W. J. Hinman and F. Torrance.

C. J. Hinckley, V. S. (O. V. C., '93), Odebolt, Iowa; vouchers, John J. Repp and J. I. Gibson.

F. A. Ilstrup, M. D. C. (C. V. C., '93), Willmar, Minn; vouchers, J. N. Gould and S. H. Ward.

G. Lawes, (C. V. C., '91), Dysart, Iowa; vouchers, A. H. Baker and J. N. Gould.

W. A. McClanahan, D. V. M. (Iowa S. C., '91), Redding, Iowa; vouchers, John J. Repp and J. I. Gibson.

Herbert F. Palmer, B. S., D. V. S. (Vet. Dept. Det. Col. of

Med., '94), Detroit, Mich.; vouchers, S. Brenton and Wm. Jopling.

H. A. Presler, M. D. C. (C. V. C., '93), Fairbury, Ill.; vouchers, N. I. Stringer and A. H. Baker.

Geo. A. Scott, V. S. (O. V. C., '86), Independence, Iowa; vouchers, Jno. J. Repp and J. I. Gibson.

C. E. Stewart, M. D. C. (C. V. C., '94), Chariton, Iowa.; vouchers, Jno. J. Repp and G. M. Walrod.

W. Swenerton, V. S. (O. V. C., '94), Carberry Man.; vouchers, W. J. Hinman and F. Torrance.

J. W. Beckwith, M. D. C. (C. V. C., '02), Shullsburg, Wis.; voucher, R. H. Harrison.

A. Bostram, D. V. S. (Iowa V. C., '93), Minden, Neb.; vouchers, A. T. Peters and Jno. J. Repp.

M. V. Byers, D. V. S. (Iowa V. C., '94), Osceola, Neb.; vouchers, Jno. J. Repp and A. T. Peters.

J. W. Cook, V. S., (O. V. C., '82), Duluth, Minn.; vouchers, S. D. Brimhall and C. C. Lyford.

J. H. McLeod, D. V. S. (McGill, '93), Charles City, Iowa; vouchers, J. I. Gibson and W. A. Heck.

Peter Malcolm, V. S. (O. V. C., '90), New Hampton, Iowa; vouchers, Jno. J. Repp and W. A. Heck.

Richard Price, V. S. (Montreal V. C., '81), St. Paul, Minn.; vouchers, B. D. Pierce and S. D. Brimhall.

L. U. Shipley, D. V. S. (C. V. C., '91), Sheldon, Iowa; vouchers, J. N. Gould and Jno. J. Repp.

Archibald A. Keys (Montreal V. C., '85), Minneapolis, Minn.; vouchers, Chas. E. Cotton and S. H. Ward.

CHARGES DISMISSED.

In the matter of charges of unprofessional conduct against Dr. Charles E. Cotton, of Minneapolis, Minn., which were lodged with the Executive Committee at the Atlantic City meeting, the accused appeared before the Executive body with a full statement, supported by documentary evidence; and, after a full hearing, the committee unanimously recommended that they be dismissed, which recommendation was adopted by the Association. The doctor, who has felt keenly the stigma placed upon his name, was heartily congratulated by his many friends.

RESOLUTIONS ADOPTED.

Tuberculosis.

WHEREAS, In the repression of tuberculosis of cattle it is of the highest importance that the disease shall, so far as possi-

ble, be confined to the localities already infested, and

WHEREAS, Every hindrance to the shipment of tubercular cattle into the United States from one State to another, or from one farm or district to another, helps to confine the disease and to lessen the difficulties attending its final eradication; be it

Resolved, That this association approves the establishment and maintenance of Federal and State laws and regulations to prevent the transfer of tubercular cattle from place to place, excepting in quarantine.

Clinics.

WHEREAS, For several years it has been the custom to offer clinical demonstrations as a part of the programme of our annual meeting; and,

WHEREAS, It has become apparent that these clinics are a source of great interest and profit to a large number of the members; therefore, be it

Resolved, That we favor the continuance and yearly improvement of this feature of our meetings by including other than surgical cases and the exhibition of pathological specimens, and if it be necessary in order to enable the local committees of arrangement to better perfect these clinics and make them more worthy such a scientific body, it would be well for the association to render additional assistance by appropriating such a sum of money as may be necessary to accomplish the purpose.

Texas Fever.

WHEREAS, The Cotton States Association of Commissioners of Agriculture at their annual meeting held in the city of Nashville, Tenn., August 26th to 28th, 1902, passed a resolution providing for the appointment of a committee of three veterinarians connected with the association to investigate the subject of Texas fever among cattle in the area now pronounced permanently infected with the disease, with the object of ascertaining what steps should be taken to render the territory free from infection, and also devise and recommend such measures as will result in the coöperation of the States affected, to the end that Texas fever may be permanently driven out of the infected district, and,

WHEREAS, The above-named association has named as members of such investigating committee three honored members of the American Veterinary Medical Association—Drs. Carey, of Alabama; Butler, of North Carolina, and Dalrymple, of Louisiana—gentlemen whose intimate acquaintance with the subject

to be investigated is well known, and respected by us. Therefore, be it

Resolved, That we hereby congratulate the Cotton States Association of Commissioners of Agriculture upon the wisdom of their action and the country upon the prospects of an intelligent solution of the great problems connected with this disease, which has and is producing such hardship and pecuniary loss to our Southern States.

State Associations.

Resolved, That it is the sense of this association that it is the duty of State veterinary medical associations to make their conditions for membership conform with those of this association.

Intelligence and Education.

Resolved, That the Committee on Intelligence and Education be instructed to investigate and report at the next meeting upon the organization and work of all American veterinary schools and State examining boards. Be it further

Resolved, That members of the faculties of the various veterinary schools and the members of the State examining boards shall be communicated with and given an opportunity to submit written or oral statements upon the subjects under investigation.

Local Committee of Arrangements.

WHEREAS, The carefully-prepared programme of the local committee of arrangements and the constant and untiring labors of the members of that committee have contributed greatly to the pleasure and success of our meeting; and

WHEREAS, The Commercial Club of Minneapolis has generously assisted the local committee and tendered the freedom of its rooms to the members of this association, and

WHEREAS, The proprietors of the West Hotel have furnished rooms for our meetings, and extended many courtesies; Therefore, be it

Resolved, That we express our appreciation of these many efforts to make this annual meeting a success, and that we tender our sincere thanks to all who have contributed to that end.

Gavel.

Resolved, That the thanks of the Association be extended to Dr. W. T. Monsarrat for the beautiful and novel gavel which he presented at this meeting.

Committee on Standard of Excellence and Soundness.

Resolved, That a committee of three be appointed to formulate a standard of excellence and soundness for horses of various classes, and report at the next annual meeting of this Association.

On the Death of Members.

WHEREAS, It has pleased Almighty God to remove from our midst Dr. RUSH SHIPPEN HUIDEKOPER, of Philadelphia, on December 17, 1901, one of our most esteemed and beloved members, one that had given the greater part of his energetic life to the building and uplifting of the veterinary profession on this continent, and the advancement of the best interests of this association; we feel that through his death the veterinary profession has suffered an irreparable loss and our association one of its most active members. We not only deplore his death as a member of our association, but we mourn the loss of a true and tried social friend. Therefore, be it

Resolved, That this association extends to his bereaved family the sincere sympathy of its members in their affliction; and be it further

Resolved, That these resolutions be entered on the records of this association, and a copy sent to his family.

WHEREAS, It has pleased Almighty God to remove from our midst, during the past year, Dr. ROBERT J. SAUNDERS, of West Roxbury, Massachusetts, one of the original members of this association, a man self-sacrificing, conscientious and studious, enjoying the good will and respect of all who knew him; therefore be it

Resolved, That this association sincerely regrets his loss, and extends to his family its sympathy in their affliction; and be it further

Resolved, That these resolutions be entered on the records of this association, and a copy be sent to his family.

WHEREAS, It has pleased Almighty God to remove from our midst during the past year Dr. THOMAS F. BARRON, of Baltimore, Maryland; therefore be it

Resolved, That this association regrets his loss and extends to his family its sympathy in their bereavement, and be it further

Resolved, That these resolutions be entered upon the records of this association and a copy be sent to his family.

WHEREAS, It has pleased the Almighty to remove from our

midst Dr. JOHN FAUST, a valued member of our association, whose death occurred in the month of July, 1901 ; therefore be it

Resolved, That this association greatly regrets his loss, and extends to his family its sympathy in their bereavement ; and be it further

Resolved, That these resolutions be entered upon the records of this association and a copy be sent to his family.

COMMITTEES FOR 1902–1903.

President Stewart announces his committees as follows :

Executive.—Tait Butler (Chairman), J. F. Winchester, H. L. Ramacciotti, F. Torrance, S. Brenton, W. Horace Hoskins, A. H. Baker, and the officers *ex-officio.*

Finance.—J. E. Ryder (Chairman), B. McInnes, and F. Abele.

Publication.—M. H. Reynolds (Chairman), Roscoe R. Bell, R. P. Lyman, C. J. Marshall, and C. W. Gay.

Intelligence and Education.—E. B. Ackerman (Chairman), A. T. Peters, W. J. Hinman, Paul Fischer, and E. M. Ranck.

Diseases.—L. Pearson (Chairman), V. A. Moore, S. D. Brimhall, L. Frothingham and R. R. Dinwiddie.

Army Legislation.—Wm. Herbert Lowe (Chairman), Wm. Dougherty, Austin Peters, M. E. Knowles and Wm. H. Kelly.

Resolutions.—D. E. Salmon (Chairman), G. A. Johnson, N. S. Mayo, G. R. White, and Alexander Burr.

Pharmacopœia.—L. A. Merillat (Chairman), Roscoe R. Bell, D. King Smith, E. L. Quitman, J. J. Repp, E. M. Ranck, and H. D. Hanson.

NOTES OF A. V. M. A. MEETING.

Geographical lines were blotted out at Minneapolis. While at former conventions extreme points of attendance were counted by States, this year they were reckoned by countries. The extreme Northwest was represented by Dr. Loveberry, in charge of Bureau of Animal Industry cattle inspection at Seattle, Washington, who traveled 3000 miles in order to be present at the great veterinary gathering. From far-away Hawaii, in the Sandwich Islands, came the genial Dr. W. T. Monsarrat, who was as much at home among the members and their wives as though he was inspecting cattle for the Honolulu Board of Health on that sea island. Although he had traveled thousands of miles to carry out a dream of years, there was present one who had journeyed a greater distance, for Dr. Olof Schwarz-

kopf, of the United States Army, landed at the convention fresh from the Philippines. Mrs. Schwarzkopf went up from Chicago on the "special" to meet her husband, and, while far from being well, maintained her courage with heroism until after the meeting with her long-absent consort, when her strength gave away, and all through the convention she was confined to her room. The farthest point South had a representative in Dr. Dalrymple, of Louisiana, while the intermediate Southern States sent Rayen and White, of Tennessee, and Butler, of North Carolina. The East sent delegates from its entire seaboard; the West from Montana to Arizona, and the interior States filled the convention hall. The Dominion of Canada took a prominent position both in the representation of her profession and in the deliberations of the convention. Dr. J. G. Rutherford, Dominion Veterinarian, and Dr. Fred. Torrance, of Manitoba, were prominent speakers in the meeting and at the banquet, while other veterinarians from the "frozen country" were scattered through the meeting.

While many had expressed doubts as to the innovation introduced at this meeting in having the ladies attend the banquet, no such perplexity will confront another local committee of arrangements, for the story of the wonderful improvement in the evening's pleasure will be told by all who were present at Spring Park. While only two numbers were assigned to the sixty or seventy ladies who sat at the long tables, they were so well and acceptably performed that at the next banquet a greater number of ladies will undoubtedly be asked to take part in the entertainment. The charming soprano voice of Mrs. S. D. Brimhall was a delight, and replaced some dull speeches at former banquets in a manner that pleased all. Mrs. A. H. Baker's first effort at speech-making was a pronounced success, and while short, was long enough to give promise of a "real speech" at another meeting. Dr. J. G. Annand sang with a delightful tenor, responding to *encores*, and adding much to the pleasure of the evening.

The trip from Minneapolis to Spring Park on Thursday will never be forgotten by those who were the guests of the local veterinarians. After a railroad ride of about ten miles, the guests (more than 200) boarded the steamer Puritan and a barge on Lake Minnetonka, and a more picturesque and beautiful sail could not possibly be secured. Everybody was in the happiest mood; a band played dance music, while those of the guests who knew how tripped the "light fantastic," the others

looking on, or gathered in groups at various points on the decks, admiring the splendid scenery and engaging in conversation. Dr. Annand was the official guide. As the boats passed up the lake, whose banks are studded by the expensive summer homes of influential Minnesotans, he called them by name with an exactness which inspired confidence in his familiarity with the locality. While the lake is only about 30 miles long, the shore line is more than 300, so uneven are its borders, which present a perfect succession of inlets and projecting points, and while it constitutes a single sheet of water, it is so nearly divided into two lakes at one point as to leave room only for a small vessel to pass through the strait. As the "narrows" were approached the guide in that clear tenor voice which later delighted the banqueters, announced that the boats would soon pass into a second lake. A guest called back with the interrogation, "What's the difference?" Without a moment's hesitation the doctor said: "You will observe the blue color of the water in this lake;" and everybody peered into the bottomless basin through which the boat was plowing. "Well," continued the silver-tongued Annand, "when we get into the next lake the water will be the same color."

An Eastern party consisting of Drs. J. Elmer Ryder, E. B. Ackerman, and Roscoe R. Bell, and their wives, visited the Union Stock-yards, Chicago, on the going trip, and were shown all points of interest by the Napoleon of that great horse market, Mr. Newgass.

Never before was there such an interest shown in the literary programme, almost every paper being discussed until the President closed off the debate through the consumption of the allotted time. The members kept their chairs as though riveted to them, no matter whether the subject was the germ of Texas fever or the cheapening of equine rations by substituting molasses and cotton-seed meal for oats and corn.

Dr. M. E. Knowles, of Montana, was a very badly frightened delegate on Tuesday afternoon. Mrs. Knowles was suffering with a sick-headache, and to relieve it took too large a dose of acetanilid, which reacted upon her heart, and, for a time, the physician who was hurriedly called could not tell if the heart would regain its normal condition. By evening, however, the entire convention was relieved by favorable reports from the sick room, and before the close of the meeting Mrs. Knowles was a safe convalescent.

A regretted omission at Minneapolis was the failure to se-

cure a photograph of the members, as was done at Nashville, Detroit, and Atlantic City. Many of the members stated that they had them all framed and hanging upon the walls of their libraries, they being frequent reminders of familiar faces and pleasant features of former gatherings. We would suggest to future committees the making of definite arrangements for this feature.

Dr. F. H. Ruhl, of Fairmount, West Virginia, had the misfortune to lose his gold watch in a crush on a trolley car in Chicago. He held on, however, very tenaciously to a box of "stogies," which he brought from the State of his adoption for the members.

Records were knocked sky-high in the matter of new members admitted. Sixty-six gentlemen were favorably reported upon by the Executive Committee and duly elected, a few of whom were reinstatements. They were not confined to the vicinity of the place of meeting, but came from all sections.

Dr. Bell, of the REVIEW, prepared a paper upon the subject of "The Legitimate Field of the A. V. M. A.," which was in the nature of a reply to the arguments of certain members who feel that practical papers and surgical demonstrations should be omitted from the programmes of the National organization. It was very apparent to him that no plea for the practical side of national association life was necessary, as the members demonstrated by their every action that they not only wished to continue as they had always done, but that if any changes were to take place that the clinics should be increased and rendered more efficient. As the paper came late on the programme, the time being very limited, and as there was no real good to be accomplished, he made a statement of the case and turned it over to the Publication Committee. It will also be printed in the REVIEW. If anyone doubts that the members are in earnest in this matter he should read the resolution adopted, which is published elsewhere.

One of the most pleasing incidents of this great gathering of veterinarians from all quarters of the Western continent to us was the universal commendations expressed of the AMERICAN VETERINARY REVIEW. Almost every one subscribes regularly for it, and many claim that next to the colleges and the A. V. M. A., it is doing more for veterinary progress than any other factor. They spoke of it with the greatest affection, one claiming that he would be willing to forego breakfast and supper three days a week rather than be without it. Another said that

during a recent serious illness, at a point when three consulting surgeons had said that he only had a day longer to live, the current number of the REVIEW arrived. He caught a glimpse of its pale-green cover, as it was laid upon the table near his bed, which at once aroused his interest, and a member of his household was requested to read to him some of its contents. It revived him, took his mind into different channels, and in a few days the entire number had been read aloud to him, with the result that he was so far improved as to be out of danger. If the American veterinarians' journal can do so much for bodily ills, it should be a panacea for all intellectual weaknesses.

A representative of the International Live Stock Association appeared before the meeting and invited all who could do so to visit their great live-stock show in Chicago the first week in December. He wished particularly to have a number of veterinarians there on Thursday of that week, as there would be in attendance on that day surely (and possibly all the week), ten German veterinary students, who were sent over by Emperor William's government to study American stock conditions.

There were about 160 in attendance at the clinic at the Experiment Farm. When it is considered that this was held upon an extra day, a number of members and visitors having been compelled to leave at the close of the meeting on account of their inability to secure longer leaves of absence, and that few meat inspectors, experiment station workers, and others engaged in sanitary specialties, were there—the attendance was phenomenal and wonderful. Every eye and every ear was engaged with the work before them, and, while the clinic was slow in getting down to work, it was fraught with great interest and benefit. The intelligent questioning of the operators by selected surgeons—an *impromptu* agreement—was a great aid in bringing out salient points. Strict order was maintained, the arena being always clear of intruders, so that one could see just as well as another.

Visitors inspected the new "Veterinary Building" of the Experiment Farm, and while no degree-giving school is maintained, the facilities for teaching veterinary medicine are as well adapted for the purpose as almost any school in the country; and it looks to an outsider as though Minnesota was heading for a veterinary college with a curriculum, staff, and other facilities for making future members of the A. V. M. A.

There were 94 old members and 35 members-elect in attendance, which places 129 members as the American record,

and in all probability that of the world, for a veterinary meeting. There were not so many visitors as at Atlantic City; but there were more ladies.

Dr. J. G. Rutherford proved himself a veritable orator, and his remarks were absorbingly listened to, whether they dealt with scientific problems, international comity between Canada and the United States, or his amusing experiences as an embryonic Indiana practitioner, where the meaning of his sign of "Veterinary Surgeon" was so little understood by the natives that he left the town in disgust. He made an eloquent plea for the Association to meet in Ottawa next year, and many with whom he conversed thought we might do much worse, as there is a great field in Canada, which would by contact benefit both the Association and the profession of that section. He said there were about seventy practitioners in that vicinity, who were ours for the coming.

Dr. Monsarrat (who soon became known to each attendant, and finally earned the soubriquet of "Honolulu Bill"), invited the Association to Hawaii, but as he could not guarantee the usual one and one-third rate, there seemed to be little prospect of his succeeding in his well-meant efforts. Dr. Knowles' usual Helena invitation has somewhat better chances, but even his whole-souled and sincere pleas will probably fail for the present.

Dr. Wm. Dougherty was on hand, after his European trip in search of relief from his old enemy, rheumatism. We regret that, while he appeared to look well, he complained of pains in his knees continuously. His old friend, Dr. Jas. L. Robertson, was his constant companion.

The "veterinary special" train on the C., M. and St. Paul Railway, in charge of Drs. Baker and Hughes, carried about 90 members and visitors, who were tendered a splendid collation on board, through the courtesy of the hosts. It was a most enjoyable occasion, but on account of a wreck on the track, was four hours late in reaching the convention city. The officers of the meeting postponed convening time from 10 A. M. to 2 P. M. in consequence. Certain of the travelers, who have always found difficulty in sleeping on a moving train, and congratulated themselves in the morning on the refreshing night's sleep which they had experienced, were chagrined to know that their slumbers were secured while the train was awaiting the clearing of the track.

The full social and pleasure programme was carried out, and the large number of ladies present thoroughly enjoyed it. On

Tuesday afternoon a visit was paid to the buildings and grounds of the University of Minnesota; in the evening an informal reception was given the visitors in the parlors of the West Hotel, thus enabling acquaintances to be formed, which proved mutually advantageous for the rest of the meeting and for all time. On Wednesday morning special cars took the guests to Minnehaha Falls, thence to St. Paul, where stops were made at the Indian Mounds, State Fish Hatchery, and Como Park. On Thursday the local committee took a large party on an inspection tour of the large flouring mills and large saw-mills. In the afternoon the entire company of ladies and gentlemen were taken by special train to Wayzata, where a steamer was boarded for a most delightful sail on Lake Minnetonka, landing at Spring Park, where the banquet took place at the Hotel Del Otero. On Friday, after the clinic at St. Anthony Park, the entire company visited the State Fair, where 250 seats on the grand stand had been reserved for them by the Fair Association. They greatly enjoyed the races, the usual fair spectacles, and particularly the splendid display of live stock.

A new and novel feature was the publication by the local committee of a beautifully printed and illustrated programme of twelve pages, giving all information concerning the various events transpiring, including the social entertainments. The illustrations included "The Falls of Minnehaha," "Scene on Lake Minnetonka," "University Buildings," "Loring Park," "Court House," "Minneapolis in 1857," "Indian Mounds and Fish Hatchery," "Scene in Como Park," "Library Building," "Old Tower at Fort Snelling," "Milling District," "Lake Minnetonka," "Veterinary Building, University of Minnesota," "Agricultural Department, University of Minnesota," "Central High School," "West Hotel," "The First House."

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

The twelfth annual meeting was called to order in the large assembly hall of the Wilson Building, Pierrepont and Fulton Streets, Brooklyn, on Tuesday, Sept. 9, at 10 A. M., by the President, Prof. James Law, and although it was raining in torrents, the room was well filled, with a few ladies in the rear seats.

After calling the meeting to order President Law introduced Hon. Richard Young, Park Commissioner of the Boroughs of Kings and Queens, who welcomed the Association to the city

in a real hearty manner, telling them of the city's wonderful parks and boulevards, forming the finest system of driveways in the world. He said that when he observed the advent of the automobile he thought the veterinarian's sphere would be greatly diminished; but that he was now convinced that the horseless carriage was but a fad, and that the horse would ever be the ideal mode of transportation, whether for business or pleasure. He congratulated the Association on its progress, on the fact that the great universities were including the science of veterinary medicine among their regular departments, and predicted a great future for us.

Prof. Law replied to the Commissioner's welcome, tendering him the thanks of the Society for his cordial words, and incidentally showing him that our profession not only dealt with the horse, but was the barrier standing between the human family and the great number of contagious diseases that are transmissible from animals to mankind, and that they had made a record in the prevention and eradication of animal scourges that had saved millions in money to the Nation. He said that the Commissioner's references to the city of Brooklyn reminded him of the fact that it was at the foot of Joralemon Street, in this city, that a cow landed on American soil in 1843, bringing with her the first case of contagious pleuro-pneumonia to this country, and that it slowly but steadily spread, until in 1885 it was found among the dairy herds of the city of Chicago. It was then that the Federal Bureau of Animal Industry took vigorous hold of the plague, and in five years completely drove the disease from this continent—a work which has never been equalled in the history of the world. He predicted that the disease would never again get a foothold in this country.

Following this the President delivered one of the most carefully-prepared and scholarly addresses that we have ever listened to. We shall not here attempt to synopsize his remarks, but will in an early issue of the REVIEW publish it in full.

The roll-call was omitted, and the attendance was ascertained by means of a register passed among those present. This register showed the following to be present at the meeting and at the clinic:

THOSE IN ATTENDANCE.

Members and Visitors.—Drs. E. B. Ackerman, Brooklyn; E. F. Alexander, Hoosick Falls; Charles S. Atchison, Brooklyn; Samuel Atchison, Brooklyn; Roscoe R. Bell, Brooklyn;

George H. Berns, Brooklyn; A. W. Baker, Brasher Falls; W. L. Baker, Buffalo; A. Barradell, Pawling; H. J. Brotheridge, Brooklyn; H. E. Bates, South Norwalk, Conn.; C. E. Burchsted, Exeter, N. H.; F. F. Bushnell, Winsted, Conn.; E. M. Casey, Oxford; D. W. Cochrane, New York; Charles Cowie, Ogdensburgh; A. J. Dodin, Morrisania; Thomas H. Doyle, New York; Wm. F. Doyle, Brooklyn; J. F. DeVine, Goshen; Robert W. Ellis, New York; W. E. A. English, Jersey City, N. J.; P. A. Fish, Ithaca; Otto Faust, Poughkeepsie; H. D. Gill, New York; George J. Goubeaud, Brooklyn; G. W. Gilbert, Bayport, L. I.; E. Hanshew, Brooklyn; H. D. Hanson, New York; F. R. Hanson, New York; Geo. S. Hopkins, Ithaca; Wilson Huff, Rome; R. C. Jenks, Ossining; L. B. Judson, Winsted, Conn.; R. E. Jones, New York; E. H. Judkins, New Paltz; M. Kenny, New York; Wm. Henry Kelly, Albany; Geo. A. Knapp, Milbrook; H. W. Kornobis, Brooklyn; James Law, Ithaca; A. M. Leek (veterinary student), Highwood, Conn.; Geo. W. Meyer, New York; R. W. McCully, New York; R. A. McAuslin, Brooklyn; W. T. McCoun, Oyster Bay; V. A. Moore, Ithaca; C. D. Morris, Binghampton; W. B. Moorehouse, Tarrytown; Andrew R. Morris, New York; Edward J. Nesbitt, Poughkeepsie; L. Nicholas, New York; Arthur O'Shea, New York; T. F. O'Dea, Saugerties; R. Perkins, Warsaw; C. R. Perkins, Warsaw; Thomas M. Quinn, Astoria; A. K. Robertson, Brooklyn; J. L. Ronan, Corning; Charles Schroder, Brooklyn; C. E. Shaw, Brooklyn; H. E. Stark, New York; H. D. Stebbins, West Winfield; G. F. Stone, Binghampton; Harry Sutterby, Batavia; T. G. Sherwood, New York; A. G. Tegg, Rochester; A. J. Tuxill, Auburn; E. F. Voorhis, Owego; James W. Walker, Brooklyn; E. Waters, Brooklyn; R. E. Waters, Gravesend; W. J. Wadsworth, Cobleskill; LeRoy Webber, Rochester; R. M. Weightman, Waterville; A. G. Wicks, Schenectady; W. L. Williams, Ithaca; J. L. Wilder, Dunkirk; H. E. Wilson (veterinary student), Brooklyn—(79).

Delegates from the Veterinary Medical Association of New Jersey.—Drs. Ernest Buckley, East Orange; J. M. Everitt, Hackettstown; J. B. Hopper, Ridgewood; J. V. Laddey, Arlington; J. Payne Lowe, Passaic; Wm. Herbert Lowe, Paterson; Werner Runge, Newark; S. S. Treadwell, Englewood—(8).

Ladies.—Mesdames E. B. Ackerman, Brooklyn; Roscoe R. Bell, Brooklyn; Charles Cowie, Ogdensburgh; H. D. Hanson, New York; James Law, Ithaca; J. L. Wilder, Dunkirk; W. L. Williams, Ithaca—(7).

Other Visitors.—A. R. Davidson, Brooklyn; John A. Dunn, Brooklyn; T. F. Krey, New York; Hon. Richard Young, Brooklyn—(4).

MEMBERS ELECTED.

The following veterinarians were elected to membership:

Drs. Harry W. Kornobis, Brooklyn; R. C. Jenks, Ossining; Richard M. Weightman, Waterville; Ernest F. Alexander, Hoosick Falls; Otto Faust, Poughkeepsie; H. J. Brotheridge, Brooklyn; Geo. A. Knapp, Milbrook; Edward J. Nesbitt, Poughkeepsie; Robert J. McAuslin, Brooklyn; Geo. W. Meyer, New York; C. R. Perkins, Warsaw; Thos. M. Quinn, Astoria; E. H. Judkins, New Paltz; Chas. Schroder, Brooklyn; Andrew R. Morris, New York; James W. Walker, Brooklyn; D. W. Cochrane, New York; Wm. J. McKinney, Brooklyn; LeRoy Webber, Rochester; Herbert Sheldon Sackett, Brooklyn; Frank Hunt, Jamestown; C. E. Shaw, Brooklyn; A. G. Tegg, Rochester, and R. E. Waters, Gravesend.

COMMITTEE REPORTS.

The various standing committees reported. The Legislative, through Chairman Kelly, that no legislation had been asked for by the profession during the past session, and that no pernicious acts were allowed to get on the statute books.

Dr. Berns, Chairman of the Committee on By-Laws, said there was nothing for his committee to report.

Dr. Bell, of the Arrangements Committee, said that all was in readiness for a good meeting; the clinic a fine prospect; the social features well arranged, and that nothing had been left undone to make the meeting a perfect success.

THE CHARGES AGAINST DR. MORRIS.

From the Executive Committee came a most important report in relation to the charges preferred at the meeting of 1901 against former Secretary Claude D. Morris by Dr. Thomas G. Sherwood. The committee summoned Dr. Morris before it and listened to his defence very carefully, occupying about two hours in its deliberations. They then presented the following report:

(1) That Dr. Morris was indiscreet in using this Society's paper in writing a personal letter to the Secretary of War.

(2) That Dr. Morris was indiscreet in stating in said letter that "the profession at large is not at heart for the enactment of this measure."

This Committee feels that while Dr. Morris failed to exercise due discretion, they do not think that his purposes were such as to warrant the imposition of any penalty.

The report was received, and Dr. Bell moved that the defendant be tried in open session ; saying that he had been summarily expelled from the American Veterinary Medical Association ; that this society had been criticised for not having done the same last year, and he thought that every member should know every detail of the case, so that he might vote according to his own conscience. This motion was seconded and carried. The defendant then asked if he should consider himself on trial, and when informed that he was, asked that his trial be in executive session. Those present who were not members were asked to withdraw, and the society was declared to be in executive session. Dr. Morris then made a full review of the case from his standpoint, after which it was moved and seconded that the report of the Executive Committee be adopted, which was carried, there being only one dissenting voice.

When this incident was closed the Society proceeded to the

READING AND DISCUSSION OF PAPERS.

Dr. Robert W. Ellis, of New York, presented his paper on the subject of "Veterinary Dentistry," and a very interesting one it was. He dealt with the physiology and mechanism of mastication, and the objects of dentistry, particularly the "floating" of the teeth. The members evidently considered the subject an interesting one, for they discussed it just as long as the Society would permit them to do so, and through the discussion many very practical points were brought out. Among those taking a prominent part in the debate were Drs. Williams, Gill, Hanshew, Lowe, and W. L. Baker.

"The Etiology of Shoe-Boil" was the subject brought forward by Dr. George J. Goubeaud, of Brooklyn. The doctor has for a long time held a radical view upon the causation of this very common condition, and some two years ago presented a similar paper to the Veterinary Medical Association of New York County. The generally accepted theory has always been that the hygroma so often seen at the point of the elbow is caused by the animal lying upon its shoe or foot. But the essayist claims that these enlargements are never so produced ; but that they are occasioned by the animal striking a quick, sharp blow with the point of the elbow in the act of rising. He points out that in rising the foot is extended, the knee flexed, and as he springs upward the point of the elbow strikes against the floor, and the cystic condition found subsequently is the result of that contusion. He produced many arguments in favor of his contention, and we believe he made many converts to his way of

reasoning. His paper was very thoroughly discussed, those taking part in it being Drs. Williams, Stebbins, Bell, Moore, Gill, A. W. Baker and Hanshew.

"Retained Placenta" was Dr. W. L. Williams' subject, and he very thoroughly described the pathology of the abnormality, giving the best methods of removing it. He found his auditors much interested in his theme, as evidenced by the numerous questions put to him concerning the condition. Some of those who asked questions or offered suggestions were Drs. Perkins, Fish, and Kenney.

"Syrup as a Food for Horses," by Dr. George H. Berns, of Brooklyn, was a magnet which attracted the most marked attention. The REVIEW had paved the way for the introduction of this subject through its publication of the Porto Rican experiments of Dr. Gerald E. Griffin, and the French method of feeding molasses as told in Prof. Liautard's "European Chronicles"; so that the audience was prepared to hear the question presented in a practical way by this very intelligent practitioner and student of current events. We have thought that to the every-day practitioner no economic nor scientific subject could be of more interest or importance to them, and so we have, even with the crowded condition of our pages, reproduced elsewhere the article in its entirety. At the clinic on the following day, Dr. Berns had one of Arbuckle Bros.' truck teams brought to his infirmary for the inspection of the Society, and a pair of horses in finer working condition would be very hard to find. Dr. Berns' views as to the reasons for the dietetic value of molasses seemed to the audience as very sound. Those who discussed the subject were Drs. Bell, Morris, Fish, and others.

"Mallein" formed the basis of Dr. H. D. Gill's didactic lecture, and he spoke with the confidence of one who had had great experience with the serum. He argued that under proper conditions mallein was as positive in its results as tuberculin, and the failures reported were mostly due to employing it under conditions where its use is contraindicated. Almost everybody present had positive ideas on the subject, prominent among whom were Drs. Ackerman, Berns, and Williams. A motion had to prevail to stop the discussion, else it would have kept on indefinitely.

The hour was getting late; there were many papers yet to be read, and that paramount subject, "The Enforcement of Our Veterinary Laws," was still to be considered. Nothing must interfere with that. So Dr. Hopkins' paper, Dr. Fish's paper,

"Interstitial Hepatitis of Swine" by Dr. V. A. Moore, "Veterinary Dentistry" by Dr. Childs, "Laryngeal Paralysis, or so-called Cerebro-spinal Meningitis" by Dr. Gill, and "The Diagnosis of Anthrax" by Dr. Moore, must give way for the subject which demands immediate and vigorous action.

Dr. Kelly did not read a paper, but spoke from the standpoint of one who was very conversant with the existing conditions. He was not even prepared to say what was the best method to have the laws enforced; he knew that graduates from two-year schools and unlicensed non-graduates were constantly settling down to practice in New York State, and that the longer they were unmolested the harder it would be to uproot them and prevent others from entering the field. Other members added to his facts, and finally Dr. Bell introduced the following resolution, which was unanimously adopted:

PROSECUTING COMMITTEE.

It was moved and adopted unanimously that a Prosecuting Committee of three members be appointed by the President; the duty of said Committee to be to employ competent counsel to prosecute illegal practitioners in the State of New York, and that the said Prosecuting Committee be authorized to solicit voluntary subscriptions from the members of the Association and from registered veterinarians throughout the State by authority of the Society and in behalf of the Society, for the purpose of defraying the expenses of such prosecutions.

RESOLUTIONS ADOPTED.

WHEREAS, The Pennsylvania State Veterinary Medical Society has seen fit to criticize the action of this society as to its method in dealing with one of its members, and

WHEREAS, This society feels that it is perfectly capable of administering its own by-laws, in its own way, without the advice, sanction or interference of those from without its membership; therefore be it

Resolved, That this society regards as indiscreet, discourteous and gratuitous the resolution passed at the last annual meeting of the Pennsylvania State Veterinary Medical Association.

Resolved, That the New York State Veterinary Medical Society recognizes in the death of Rudolf Virchow, pathologist, scientist and statesman, an irreparable loss to medical science and humanity; a man of universal genius and a benefactor of mankind, who, starting early in life in advance of his

line, maintained that standard throughout his long career.

In recognition of these qualities, we manifest the same by silent vote in rising.

PROPOSED AMENDMENTS TO THE CONSTITUTION.

We, the undersigned members of the New York State Veterinary Medical Society, offer the following amendments to Article V. of our Constitution:

"To strike out the word 'fifteen' and substitute 'twenty-five' in the fourth line.

"To strike out the word 'two' and substitute 'two or three' in the sixth line."

We also beg to offer the addition of a new article, to be known as Article No. VII, to the Constitution, to read as follows:

"That a standing committee of three members be appointed as a Committee on Resolutions." (Sgd.) GEO. H. BERNS.
W. L. BAKER.

At the conclusion of the discussion and adoption of the resolutions creating a Prosecuting Committee, the selection of the next place of meeting was taken up. Three candidates were placed in nomination, as follows: Ithaca, Brooklyn, and New York; the balloting resulted in the selection of Ithaca, it receiving 26 votes, Brooklyn 11, New York 8.

The convention then adjourned to meet at the infirmary of Dr. George H. Berns, 74 Adams Street, to witness and participate in

THE SURGICAL CLINIC,

which proved a very instructive and interesting feature. The arrangements were splendidly planned, they began promptly on time, the business was dispatched with as much alacrity as was consistent with thoroughness, and we predict that this feature has done as much to demonstrate the mutual benefit which can be secured from an association of veterinarians as anything possibly could do.

One feature of this clinic will be that at the next meeting (and earlier through the REVIEW) Dr. Berns will report the results of the operations, so that the value of the procedures will be definitely known.

The following cases were presented:

I. Practical demonstration of the use of the ophthalmoscope for the diagnosis of obscure lesions of the eye. By Dr. George G. Van Mater, of Brooklyn.

II. Enormous enlargement and induration of both parotid

glands in a gray horse (probably melanosis). By Dr. George H. Berns, of Brooklyn.

III. Lacerated wound of the inferior abdominal region with protrusion of the intestines and discharge of alimentary matter through wound. By Dr. George H. Berns, of Brooklyn.

IV. Dropping of stifle, following azoturia, three months' standing. By Dr. George H. Berns, of Brooklyn.

V. Gelatinous degeneration of the pastern, following plantar neurotomy. By Dr. George H. Berns, of Brooklyn.

VI. Large cystic tumors of the poll. By Dr. George H. Berns, of Brooklyn.

VII. Periostitis of pedal bones, both front feet. By Dr. George H. Berns, of Brooklyn.

VIII. Peculiar action of the stifle and relaxation of the tendo-Achilles. By Dr. Wm. J. McKinney, of Brooklyn.

IX. Aggravated stringhalt of both hind legs. By Dr. Roscoe R. Bell, of Brooklyn.

X. Suspected case of farcy. By Dr. George H. Berns, of Brooklyn.

XI. A pair of truck horses doing daily work fed on molassed food for eighteen months (property of Arbuckle Bros.).

XII. Aggravated case of stringhalt. By Dr. J. L. Robertson, N.Y.

The following operations were performed :

I. Tenotomy of deep flexors, one front and both hind legs. By Dr. G. A. Stone, Binghamton.

II. Ovariotomy of mare through vagina (with the privilege to all of passing hand through wound and feeling the parts). By Dr. W. L. Williams, of Ithaca.

III. Extirpation of membrana nictitans. By Dr. George H. Berns, of Brooklyn.

IV. Castration of stallion, standing (time, 60 seconds). By Dr. R. E. Waters, Gravesend.

V. Tenotomy deep flexors both hind legs, donkey. By Dr. George H. Berns, of Brooklyn.

VI. Tenotomy of lateral extensor of the phalanges (stringhalt operation). By Dr. C. E. Shaw, of Brooklyn. [This is the same horse exhibited by Dr. Bell—No. IX—and the result of the operation will be published in the REVIEW.]

VII. Extirpation of lateral cartilage for the radical cure of quittor. By Dr. W. F. Doyle, of Brooklyn.

VIII. Demonstration of the use of a new mechanical tooth float. By Dr. Robert W. Ellis, of New York. (This novel and

practical invention, which is especially suited for "floating" large stables of horses, works by the turning of a crank, somewhat on the order of a clipping machine, and requires but little exertion on the part of the operator. Those who witnessed it pronounced it a wonderful invention, very practical and a great labor saver. It was used in conjunction with the patent halter, invented by the same veterinarian).

IX. Demonstration of the use of stocks and operating tables. By Drs. Joseph R. Hodgson, of Brooklyn, and W. J. McGee, of New York.

The time allotted to the clinic having expired, the party left on special trolley cars for Coney Island. But a large number of cases were left over. On the following day Drs. Berns, Ackerman, Sackett, Walker, and C. S. Atchison finished the material on hand, which consisted of tenotomies, neurectomies, and bitch ovariotomies.

NOTES OF THE N. Y. S. V. M. S. MEETING.

Let it never be again said that the veterinarians of New York City cannot arrange a good meeting; and do not intimate that the members of the profession throughout the State will not attend a meeting when a programme which appeals to them is prepared.

A campaign against illegal practitioners was inaugurated which promises to yield good results. It may be safely said now that "something" is going to be done to rid the State of those who have no legal nor moral right to practice in the commonwealth.

The attendance was the largest in the history of the Association, and it was well distributed, members coming from the most distant cities. Although many neglected to register, there were ninety-eight (98) names recorded, which is a very satisfactory turn-out of Empire State Veterinarians.

New Jersey sent over a large delegation of its best men, who expressed themselves as well repaid for their time. Among those at the regular session and at the clinic were Drs. Wm. Herbert and J. Payne Lowe, Werner Runge, S. S. Treadwell, J. M. Everett, J. B. Hopper, Ernest Buckley and J. V. Laddey. A resolution was adopted instructing the President to appoint delegates to the next meeting of the New Jersey State Association, not only to return the courtesy of that body and to encourage such interstate fraternity, but that the delegates may take

note of the best features of the convention, with a view to improving the meetings of the New York Society.

While the Committee of Arrangements worked in splendid harmony, the great success of the clinic was due to the untiring efforts of Dr. George H. Berns, who had secured enough good clinical material to have extended the session for a week. Everyone remarked that the cases supplied were thoroughly practical, being such as are met with almost daily in private practice, and they all felt that by interchange of views they had learned something worth knowing from each case.

The relaxation obtained by the members and visitors, after the meeting adjourned, was greatly enjoyed. It was regretted by the local committee that so many were compelled to return to their homes on the early trains, and thus failed to avail themselves of the hospitality provided for them at Coney Island. However, fifty-six sat at the long table at the Pabst Hotel, on Surf Avenue, and enjoyed a tasteful shore dinner, afterwards "doing" the attractions of that famous seaside resort. We observed some of our staid and venerable members in the thickest of the fight, and from the lightness of their spirits they appeared to be enjoying the innocent amusements so abundantly provided.

Several photographers did a thriving business at the clinic, taking groups in the operating room, and the entire attendance in front of the infirmary, most everyone ordering copies as mementoes of the memorable occasion.

A. V. C. boys were everywhere to be seen, and we heard several express a wish that their old instructor and friend, Dr. Liautard, could be present and enjoy with them such a rare treat. We know how glad he would have been to have spent the day in person where we are sure his heart was.

Applications for membership came thick and fast. A special session was held at the clinic just after lunch, to elect half a dozen belated applicants, and there were several other visitors who became so desirous of being an integral part of the Society by the time the clinic was over that they inquired if it were not possible to hold an extra session for the purpose of admitting them.

We observed three demonstrations under way at one time on several occasions. On the operating table, a tenotomy; in a stall, a dental operation; while in the front clinic room there would be a consultation on a suspected farcy patient or an obscure lameness.

The State Society is now a powerful organization for good; it has many important functions in regard to the laws governing the profession of the State, and if its authority and influence are wisely directed, it should make a great improvement in the condition of the profession. For instance, its authority is supreme in forming the *personnel* of the Board of Veterinary Medical Examiners; it has the power to prevent the practicing of other than licensed veterinarians, and through its well organized forces it can prevent the passage of pernicious legislation.

MISSOURI VETERINARY MEDICAL ASSOCIATION.

The eleventh annual meeting was called to order at 9 A. M. in the assembly hall of the Board of Education Building, northwest corner of Ninth and Locust Streets, St. Louis, Mo., by Dr. Chas. Doenie, of Boonville, Mo., Vice-President, the President, Dr. J. W. Connaway, being absent on account of ill health.

The following members and visiting veterinarians were present: Drs. F. F. Brown, H. Bradley, C. W. Crowley, Chas. Ellis, F. A. Goodbody, L. M. Klutts, B. F. Kaupp, R. A. Kammerer, D. F. Luckey, T. J. Menestrina, S. Stewart, A. Darling, H. B. Piatt, Ray J. Stanclift (8th U. S. Cavalry), J. M. Watson, W. H. Meadors, T. W. Scott, H. Timmermann, D. G. Painter, R. J. Sollberger, F. W. Hopkins, N. C. Powell, F. L. Combs, R. F. Eagle, J. J. Hougendobler, A. J. Hammerstein, D. C. Burnett, T. B. Pote, W. F. Heyde, and U. G. Houck.

The minutes of the previous meeting held in Kansas City, Oct. 22 and 23, 1901, were read and approved.

Under "Communications and Correspondence" the Secretary read a letter from Dr. W. Horace Hoskins, of Philadelphia, Pa., in regard to attending the National Association to be held in Minneapolis, Sept. 2, 3, and 4, 1902. Also a letter from Dr. E. Brainard, of Memphis, Mo., sending regrets at his inability to attend.

Vice-President Chas. Doenie then appointed Drs. D. F. Luckey and L. M. Klutts on the Committee on Elections in the place of Drs. W. E. Martin and F. W. O'Brien, who were absent.

Under the head of "Applications for Membership" the names of the following veterinarians were presented: Drs. A. Darling and F. A. Goodbody, St. Louis; Oscar Stuart, Florida; Wm. McEachran, Louisiana; Jas. Mahon, Carrollton; E. Brainard, Memphis, and Arthur Frickett, Kansas City.

Dr. D. F. Luckey moved that Dr. R. A. Kammerer be instructed to cast the vote of the Association for the above applicants to become members of the Association. Seconded and carried.

Dr. S. Stewart then placed in nomination the name of Dr. D. F. Luckey, of Columbia, for President for the coming year. A motion was made, which was seconded and carried, that Dr. Luckey be elected by acclamation.

Dr. Chas. Ellis then placed in nomination the name of Dr. R. A. Kammerer, of St. Louis, for Vice-President. Dr. H. B. Piatt moved that the Secretary be instructed to cast the vote of the Association for Dr. Kammerer, which was seconded and carried.

Dr. D. F. Luckey placed in nomination the name of Dr. B. F. Kaupp, of Kansas City, for re-election for Secretary-Treasurer. A motion was made, seconded and carried, that the Secretary be re-elected by acclamation.

The Secretary then read a report for the Secretary-Treasurer for the past year. Dr. S. Stewart made a motion that the reports be accepted as read, which was seconded and carried.

Dr. D. F. Luckey then gave a good and interesting address upon the subject of State veterinary legislation, pointing out some of the obstacles in the way of securing needed veterinary legislation in the State of Missouri. It was moved by Dr. S. Stewart that the President appoint a committee of three on State veterinary legislation and to make an attempt to secure needed legislation during the next session of the State legislature; seconded by Dr. Chas. Ellis and carried.

It was then moved, seconded and carried that the meeting adjourn for luncheon.

At 2 o'clock P. M. the meeting was called to order by the Vice-President, Dr. Doenie, when the following programme was presented:

"Puerperal Mania in Bovines," by Dr. E. M. Nighbert.

"Complications in Colic," by Dr. S. Stewart, who went thoroughly into the subject and the paper brought out a good discussion by Drs. A. Darling, L. M. Klutts, D. F. Luckey, Chas. Ellis and others.

"My Practical Experience Since Our Last Meeting," by Dr. L. M. Klutts, which paper was interesting and brought out a good discussion.

Following these papers a number of interesting cases were reported.

At 6 o'clock it was moved, seconded and carried that the meeting adjourn to the northeast corner of Sixth and Chestnut Streets, where the veterinarians present were royally banqueted by the veterinarians of St. Louis.

At 8 o'clock the meeting was again called to order, when the following papers were presented:

"Differential Diagnosis of Actinomycosis and Tuberculosis," by Dr. R. F. Eagle. After the reading of this valuable paper a motion was made by Dr. S. Stewart, which was seconded and carried, that the courtesies of the floor be extended to the visiting veterinarians, and it was thoroughly discussed.

"Poisoning by Nightshade," by Dr. T. F. Brown.

"Caseous Lymph-Adenitis," by Dr. S. L. Shaw.

Following these papers many interesting cases were reported, after which Dr. Chas. Ellis moved that the following resolutions be adopted, which was seconded by Dr. A. Darling, of St. Louis, and carried:

WHEREAS, The A. V. M. A. has established the precedent of holding meetings in cities where national and international fairs are held, and

WHEREAS, An international fair will be held in St. Louis in 1904, and

WHEREAS, No meeting of the A. V. M. A. has been held in the State of Missouri, and

WHEREAS, The foregoing circumstances make St. Louis the logical city for holding its meeting in 1904. Therefore be it

Resolved, That the Missouri Veterinary Medical Association now in session invites the American Veterinary Medical Association to meet in St. Louis in 1904.

A motion was then made by Dr. D. F. Luckey, which was seconded by Dr. Chas. Ellis and carried, that the Association extend a vote of thanks to Dr. R. F. Eagle for his valuable paper.

It was then moved, seconded and carried that the next meeting be held in Windsor, Mo., in 1903, at such time as the officers of the Association and Executive Committee may decide. A motion made by Dr. Stewart, which was seconded and carried, that a vote of thanks be extended to the local committee and other veterinarians of St. Louis for their hospitality.

At 11 o'clock, by a motion, which was seconded and carried, the meeting adjourned to meet at Manchester Avenue and Kings Highway, at 9 A. M., Aug. 19.

Tuesday, August 19, at 9 A. M., a clinic was held at Dr. R. A. Kammerer's hospital. The excellencies of the Kansas City Veterinary College operating table were demonstrated by Drs.

F. F. Brown and S. Stewart. Many operations were performed which were participated in by Drs. D. F. Luckey, Ray J. Stanclift, F. F. Brown, L. M. Klutts and others.

At one o'clock the clinic adjourned to luncheon, which was given by the St. Louis veterinarians, after which the afternoon was spent in examining interesting cases presented at the clinic.

The meeting was then adjourned to meet in Windsor, Mo., in 1903. B. F. KAUPP, *Secretary.*

ILLINOIS VETERINARY MEDICAL AND SURGICAL ASSOCIATION.

This association met in semi-annual session at the Brunswick Hotel, Decatur, August 14th and 15th, 1902, and was called to order by the President, Dr. V. G. Hunt, of Arcola. The roll-call was responded to by a fair number of the membership.

President Hunt's address was delivered in a masterly manner, characteristic only of himself, and was as follows:

"*Gentlemen:*—As we meet to-day we are forcibly reminded of the rapid advancement in every department of the arts and sciences. When we look back a quarter century ago and see where the veterinarian stood, the meagre supply of veterinary literature at his command, the impotency of the healing art, it is not to be wondered at if he should make some fearful mistakes. The only wonder is that he did as well as he did. In surgery no antiseptic precautions were thought of. Still, many of our patients recovered. One fact yet remains to be told. Very few of those bold and difficult operations were not attempted that to-day are of every day occurrence. Surgery has outstripped all the other sciences, has attained a degree of perfection never dreamed of half a century ago. Doubtless if we could brush aside the veil that covers the future, we would still see greater surprises in store than ever before. The live-stock interest is too great to leave a stone unturned to combat every infectious and contagious disease that has already secured a foothold in our own State.

"We are well aware that an alarmist is not looked upon with any degree of composure. Still, this does not relieve the veterinarian of his responsibilities to his patrons. The time was, when a lone horseman at breakneck speed warned the people of Johnstown of impending danger, losing his own life to save that ill-fated city; they heeded not the warning and the city was destroyed.

"Tuberculosis has come to stay. It has stealthily invaded every part of our State, slowly but surely doing its work. And as man can and does contract this disease from the bovines, is it not worth while to give this disease our earnest consideration? Laws should be passed to restrict its ravages, ample appropriations made for the experimental stations with competent men at the helm. How important it is for politics to be eliminated from these appointments—not a 'good, clever fellow,' which usually means a d—d fool, but conscientious men of education, coupled with experience. Then, we may expect results. How often has the worthy veterinarian skulked off in shame when a State veterinarian has been called upon when confronted with a contagious or infectious disease was as dumb as an oyster. Let us hope we have seen the last of this class of gentry. If there is anything that requires keen perception with a little common honesty, it is the position of State veterinarian. It must be admitted the life of a veterinarian is an arduous one, above all the other vocations in life, for the public look with no degree of composure upon his shortcomings, while the human practitioner can attribute a death to 'heart-failure,' an almost meaningless term, which is received in good faith.

"Our societies should sound the timely warning from the house-tops without fear, favor or affection. The veterinarian should devote his whole life to the upbuilding of his self-chosen profession. As the practice of medicine is an incomplete science and will likely always remain so, requiring a practitioner to be a diligent student while attending his every-day practice. Hence, the necessity of our society. Life is too short to gain that perfection required unaided by the society. The man who gets what he has learned along the journey of life and lets it be buried with him, is not a benefactor of his race. Let us encourage every worthy investigator. Be slow in our criticisms. 'With Charity for all, with Malice towards none' is a commendable virtue."

The minutes of the previous meeting were then read and approved by the association.

President Hunt next appointed S. H. Swain, C. A. Hurlbutt, and John Osborne, as a committee to draft resolutions of condolence on the death of Dr. L. C. Pray, of Minonk, Illinois, a charter member of the association, and directed that a copy thereof be sent to the widow of deceased, and also one to be spread upon the minutes of this meeting.

Papers presented were as follows:

"Lymphangitis," by Dr. N. P. Whitmore, of Gardner; "Dermatorrhagia," by Dr. C. A. Hurlbutt, of Stonington, who read a report of a case in his practice which brought forth a very instructive discussion upon the subject. Dr. W. J. Martin, of Kankakee, read the same paper on "Bone Spavin" which he did before the American Veterinary Medical Association in 1900 and published in the proceedings of that meeting. A very excellent paper was read by Dr. J. W. Marsh, of Illiopolis, on the subject of "Erysipelas," which brought out some very interesting and instructive points with reference to this disease; he was responded to by Drs. J. M. Reed and I. M. Luzader. The subject of "Nephritis" was well calculated to bring forth discussion and an excellent paper on the subject was read by Dr. J. M. Reed, of Mattoon, responded to by Dr. D. K. Gooddale.

The second day's session was called to order by President Hunt. Much discussion was indulged in on the subject of eligibility of members, and resulted in the carrying of a motion proposed by Dr. S. H. Swain to empower the Committee on Programme to draft and have printed a circular letter to be sent out to the profession at large in the State.

Dr. S. H. Swain next read a paper on the subject of "Entropion and Ectropion," which was responded to by Dr. R. W. Brathwaite.

A paper on "Eczema," by Dr. V. G. Hunt, of Arcola, was next read and responded to by Drs. R. W. Brathwaite and C. A. Hurlbutt. "Tetanus," by Dr. R. W. Brathwaite, of Champaign, was a very complete and instructive paper, which created considerable interesting discussion. W. A. Swain then gave an account of a case of "Hysteria," which was responded to by Dr. W. J. Martin.

Among the visitors present was Dr. Tiffany, of Springfield, State Veterinarian.

On motion, the date and location of the next meeting was fixed for Wednesday and Thursday, January 14th and 15th, 1903, at the St. Nicholas Hotel, Decatur, Illinois.

W. A. SWAIN, *Secretary.*

GENESEE VALLEY VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting was held at Rochester, July 17th, 1902. President O. B. French presided. There were present:

Drs. J. H. Taylor, Henrietta; P. I. Johnston, Wilmington; J. E. Smith, Webster; L. J. Palmer, Sonyea; L. R. Webber, Rochester; W. E. Stocking, Medina; D. P. Webster, Hilton; N. N. Leffler, Geneseo; Carl Webber, Rochester; W. G. Dodd, Canandaigua; A. George Tegg, Rochester.

The morning session included the routine business of the Association. Adjourned to meet at the veterinary hospital of Dr. L. R. Webber, on Andrew St., at 1.30 P. M., at which place a very interesting clinic was held, resulting from the successful efforts of Dr. J. H. Taylor, chairman of the Clinic Committee. There were a great number of operations performed and witnessed by members of the Association.

W. E. STOCKING, *Secretary.*

NEWS AND ITEMS.

DR. O. A. STINGLEY, of Kansas City, has been appointed an assistant inspector in the Bureau of Animal Industry and ordered to Chicago.

DR. RAY J. STANCLIFT, veterinarian 8th U. S. Cavalry, Jefferson Barracks, Mo., recently from Cuba, attended the annual meeting of the M. V. M. A., held in St. Louis Aug. 18 and 19, and also the A. V. M. A., at Minneapolis.

MONEY IN A DOG'S STOMACH.—The stomach of a dog is a peculiar thing to see on the desk of an official of the United States Treasury, but that was the object which E. E. Schreiner recently spread out before him. Mr. Schreiner is chief of the division of redemption of the Treasury and has become accustomed to receiving money under peculiar conditions. Even he, however, admitted the originality of the case in question. "Dear sir," ran the letter which accompanied the stomach, "I send under separate cover stomach of my dog Fritz. I was playing with him to-day, holding a $20 bill up for him to jump at, when he suddenly leaped higher than I had anticipated, grabbed the bill between his teeth and ran under the house, where he chewed the money up and swallowed it. I thought more of the twenty than I did of Fritz—he was always chasing chickens—so I shot him and cut out his stomach. Please see if you can't paste the bill together and redeem it." "The unique feature of this case," said Mr. Schreiner, "is that we found the bill slightly chewed up, but sufficiently whole to identify and redeem. The man has received a check for $20 by this time."—(*New York Herald.*)

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Alex. Eger, 34 East Van Buren St., Chicago, Ill., Veterinary Publisher and dealer in Veterinary Instruments, Books, and Drugs, is the authorized agent for the REVIEW *in Chicago and the Middle West, and will receive subscriptions and advertisements at publishers' rates.*

LAST month, we reminded our readers (through this department) of the debt of gratitude and appreciation that they owe to the advertisers in their magazine; and even while we were writing it, it seems that the manuf cturers of another valuable product, were preparing a "bulletin" of information for their inspection, which will be found in this number on page 2 (ad. dept.). The product called attention to by this "bulletin," Glyco-Heroin (Smith), needs no further indorsement than the name of the manufacturers (Martin H. Smith Co., pharmaceutical chemists), to class it among preparations of a fine grade, characteristic of all the pharmaceutical products of that house. But it has the further indorsement of some of the most painstaking practitioners among the REVIEW readers, in the "Case Reports" in the June and September numbers. These reports, the knowledge of the therapy of the drugs employed in its formula, and the reputation of the manufacturers as pharmaceutical chemists, should make this product a very welcome one to the veterinary profession.

"SPANISH ITCH."—Fifteenth Annual Report U. S. Bureau of Animal Industry, says: "The most satisfactory results were obtained by using an emulsion of Zenoleum. This is a coal-tar derivative, rendered alkaline so that when added to water it forms a permanent emulsion without agitation and is a very effective remedy in destroying insect parasites. One part of Zenoleum to fifty parts of water was found to be very effective. It penetrates scab and matted-hair readily, does not irritate the skin or the hands, and is easily and quickly applied. The cost is about three cents per head."

TANNOFORM-MERCK, which is no exception to other valuable preparations of Merck & Co., page 3 (ad. dept.), is attracting especial attention in veterinary practice from its variety of legitimate uses. It is a wonderful article to have in one's satchel at all times, and worth while looking up. Write for their booklet on Veterinary Remedies, and use the REVIEW as your reference.

MULTUM IN PARVO could not be more truly applied than in expressing an opinion of The Abbott Alkaloidal Company's very nice preparations of the active principles. Their advertisement, on the inside of the back cover page, is certainly attractive; but practice, with their alkaloidal preparations, becomes positively fascinating.

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